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ABSTRACT

The current status of education for 1993 is presented in the form of education "indicators"--key data that measure the health of education, monitor important developments, and show trends in major aspects of education. The 60 indicators have been divided into 6 areas: (1) access, participation, and progress; (2) achievement, attainment, and curriculum; (3) economic and other outcomes of education; (4) size, growth and output of educational institutions; (5) climate, classrooms, and diversity in educational institutions; and (6) human and financial resources of educational institutions. The report includes the text, tables, and charts for each indicator plus the technical supporting data, supplemental information, and data sources. Indicators on issues in elementary and secondary education are integrated with those on issues in postsecondary education to reflect the continuity of educational experiences. New indicators include the following: (1) age of first graders; (2) participation in adult education; (3) educational attainment of Hispanics, by recency of migration; (4) course taking in college for recent graduates and for recently graduated full-time teachers; (5) education and labor-market outcomes of high school diploma and GED graduates; (6) health characteristics of adults, by years of schooling; (7) participation in school decision making; (8) time in the classroom; and (9) international comparisons of reading literacy. (MFL)

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NATIONAL CENTER FOR EDUCATION STATISTICS

# THE CONDITION OF EDUCATION

# 1993

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# THE CONDITION OF EDUCATION
# 1993

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"The purpose of the Center shall be to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations."—Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e–1).

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The National Center for Education Statistics (NCES) gathers and publishes information on the status and progress of education in the United States. The federal authorization for these activities (with antecedents to 1867) states that the Center will "collect, collate, and from time to time, report full and complete statistics on the condition of education in the United States." The Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (Public Law 100-297) mandate an annual statistical report on the subject from the Commissioner of Education Statistics. This 1993 edition of *The Condition of Education* responds to the requirements of law.

*Interest in Education Indicators.* The need for high quality information about education has increased in recent years. The national commitment to the six education goals adopted by the President and the governors, a commitment renewed with the change of Administrations, highlights this need. The National Education Goals Panel was established to monitor the nation's progress in achieving those goals. They issue an annual report with indicators focused on the goals, *The Nation's Education Goals Report: Building a Nation of Learners.*

Federal, state, and local policymakers require a variety of information to develop, implement, and monitor policies designed to improve education. Education and business organizations as well as community groups and citizens generally want to know how to make and support reforms designed to bring about that improvement. Developing education indicators is one way the Center has participated in a widening national discussion about the types of measures needed to serve these diverse purposes.

In 1988, Congress recognized the need for such development by mandating that NCES convene a special study panel of experts to "make recommendations concerning the determination of education indicators for study and report" (Public Law 100–297). The report of this panel, titled *Education Counts: An Indicator System to Monitor the Nation's Educational Health,* was submitted to Congress in September 1991.

The report recommended that NCES abandon the simple organizing device that has been common in educational indicator reporting, that of grouping data into categories of inputs, processes, and outputs. Instead, as a framework for reporting, the panel selected six enduring issue areas: learner outcomes, quality of education institutions, readiness for school, societal support for learning, education and economic productivity, and equity. The panel also broke with the tradition of choosing indicators parsimoniously. Instead, the report describes an information system that leaves few corners of the learning enterprise unexamined.

Responding to these recommendations while serving the needs of policymakers presents NCES with several challenges—imposing sensible limits on the volume of indicator information, strengthening analytic and interpretive capacity, and distinguishing between data suitable for indicator reporting and data that are valid for statistical research and program monitoring. We hope that in the future *The Condition of Education,* which addresses the specific need for a broad overview of the educational enterprise, will be just one component of a larger reporting system on the state of education in our nation.

*Organization.* The condition of education "indicators"—key data that measure the health of education, monitor important developments, and show trends in major aspects of education—are divided into six areas: (1) access, participation; and progress; (2) achievement, attainment, and curriculum; (3) economic and other outcomes of education; (4) size, growth, and output of educational institutions; (5) climate, classrooms, and diversity in educational institutions; and (6) human and financial resources of educational institutions. Within each section, indicators on issues in elementary and secondary education are integrated with those on issues in postsecondary education to reflect the continuity of educational experiences. The report includes the text, tables, and charts for each indicator plus the technical supporting data, supplemental information, and data sources.

This edition of *The Condition of Education* reflects some important changes from recent years. The format of *The Condition of Education* is designed to present statistical information in an accessible manner for a general audience. The essence of each indicator is on two facing pages. On the first page, the results are highlighted and a table presents the data. On the second page, one or more charts give a graphic representation to the major implications of the indicator. In addition, a discussion precedes each of the six groups of indicators relating them to one another. As in previous years, additional tables supporting each indicator are placed in an appendix. A variety of features to improve access to each part of the volume are included.

*Indicator Selection.* The indicators portrayed here are selective. No more than 60 indicators are presented in each year's report. By contrast, the Center's major annual compendium, *The Digest of Education Statistics,* includes 409 statistical tables, plus figures and appendices in its 1992 edition. The indicators represent a consensus of professional judgment on the most significant national measures of the condition and progress of education at this time, but tempered, necessarily, by the availability of current and valid information. They reflect a basic core that can be repeated with updated information every year, supplemented by a more limited set of indicators based on infrequent studies.

This year some of the new indicators are:
- Age of first graders (*Indicator 3*);
- Participation in adult education (*Indicator 8*);
- International comparisons of reading literacy (*Indicator 17*);
- Educational attainment of Hispanics, by recency of migration (*Indicator 21*);
- Course taking in college for recent graduates and for recently-graduated full-time teachers (*Indicators 28* and *60*);
- Education and labor market outcomes of high school diploma and GED graduates (*Indicator 34*);
- Health characteristics of adults, by years of schooling (*Indicator 35*);
- Participation in school decision making (*Indicator 47*); and
- Time in the classroom (*Indicator 49*).

*Data sources.* The indicators presented in this report have been developed using data from studies carried out by NCES as well as from surveys conducted elsewhere, both within and outside the federal government. Although indicators may be simple statistics, more often they are analyses—examining relationships; showing changes over time; comparing or contrasting subpopulations, regions, or states; or studying characteristics of students from different backgrounds. Data used for these indicators are the most valid and representative education statistics available in the United States today for the subjects and issues with which they deal.

The utility of *The Condition of Education* should continue to increase as more diverse, high quality data become available, especially as new time series can be constructed. Elementary and secondary education data will be enhanced by revisions in the basic data collected about public schools in the Common Core of Data and about private schools from the Private School Survey. The Schools and Staffing Survey (SASS) and the National Education Longitudinal Study of 1988 both contribute substantially to elementary and secondary education indicators. Assessment data will be enhanced by the National Adult Literacy Survey, the Third International Mathematics and Science Study, and expansion of the Trial State Assessment Program to include reading in addition to mathematics, and grades 4 and 12 in addition to grade 8.

The Integrated Postsecondary Education Data System includes information from accredited 2- and 4-year colleges and universities as well as nonaccredited institutions whether they are public, private, 4-year, 2-year, or less-than-2-year. Information from this broader group of institutions provides a much clearer picture of what is happening in the full scope of postsecondary education. Other studies being conducted by the Center will be the basis for new indicators on postsecondary education issues: the Beginning Postsecondary Student study, and the fourth followup of the High School and Beyond 1980 Sophomore Cohort.

I hope you find the material helpful and invite you to send us comments on how to make future editions even more useful.

Emerson J. Elliott
Commissioner of
Education Statistics

This report was prepared in the Indicators and Reports Branch of the Data Development Division, under the general direction of Nabeel Alsalam. Overall direction was provided by Jeanne E. Griffith, Associate Commissioner for Data Development.

Many individuals contributed to the preparation of this report. Yupin Bae, Michelle Brown, and James Corina of Pinkerton Computer Consultants, Inc., made significant contributions, for which we are especially grateful. Yupin Bae created Indicator 8 on participation in adult education, updated several indicators, and prepared tabulations from the October Current Population Survey. Michelle Brown designed and edited all the graphics in the report and prepared them for color printing. James Corina produced tabulations from several data sets, including the Schools and Staffing Survey (SASS), the National Longitudinal Survey of Youth, and the March Current Population Survey. Other staff of Pinkerton Computer Consultants also made important contributions to the volume. Bruce Daniel prepared tabulations from the 1987 Transcript Study of the Recent College Graduate Survey and the National Survey of Postsecondary Faculty. Beth Schlaline produced tabulations from SASS. Darryl Harris processed data from the Recent College Graduate Surveys and the National Postsecondary Aid Study. Bob Craig tabulated data from SASS and the National Health Interview Survey.

Richard Ingersol, an American Education Research Association (AERA) Fellow at NCES, created Indicator 47, which deals with decision making by school admistrators and teachers.

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This volume has been reviewed by many people, often within very tight time constraints and at the expense of their many other responsibilities. Their high professional standards, discerning eyes, and commitment to quality are crucial to the quality, utility, and relevance of the volume. Mary Frase, John Burkett, and Tommy Tomlinson critically reviewed the entire manuscript and made many important suggestions that improved the final result. Jeanne Griffith made valuable suggestions for the Overview and section essays. Many OERI staff reviewed individual indicators. Susan Ahmed oversaw the revisions to the manuscript. Margery Martin edited the text and charts. Maris Vionovskis reviewed the document for the Office of the Assistant Secretary in OERI. Other offices within the Department of Education that provided comments were: Office of Planning, Budget, and Evaluation; Office for Civil Rights; Office of Vocational and Adult Education; and Office of Bilingual Education and Minority Languages Affairs.

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# *Overview*

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> "Why do we seek to know the condition of education? In the answer to this question will be found the reasons for the elaborate statistical record which forms a feature of all official school reports. We take an account of education so that we may know whether it is sufficient in amount and good in quality."
>
> Henry Barnard
> First Commissioner of Education

## Introduction

During the 1980s, the country became increasingly aware of the range of critical issues facing education. These issues were nationwide in scope and included equality of opportunity for a good education for all segments of the population, general low academic performance, drug use and violence in the schools, unacceptably high dropout rates, high cost of a college education, and skills of workers lagging behind changes in the economy and technology. These concerns continue to have serious implications, not only for schools and colleges, but for the future of individual citizens, U.S. economic competitiveness, and ultimately the structure and cohesiveness of American society and culture.

*The Condition of Education* provides a means to report where progress is being made in education and where it is not, to draw attention to emerging issues, and to inform the ongoing policy debate.

### The Structure of *The Condition of Education*

A quick tour of the volume may help the reader make the best use of it. The core of the volume consists of 60 indicators. Each indicator is presented on two pages. However, included in the back of the volume are supplemental tables providing additional details, and sometimes an explanatory note on a technical or data-related issue.

The 60 indicators are organized into six sections. The six sections are: 1) Access, Participation, and Progress; 2) Achievement, Attainment, and Curriculum; 3) Economic and Other Outcomes of Education; 4) Size, Growth, and Output of Educational Institutions; 5) Climate, Classrooms, and Diversity in Educational Institutions; and 6) Human and Financial Resources of Educational Institutions. Instead of separating elementary and secondary education from postsecondary education indicators, the volume integrates elementary, secondary, and postsecondary education into each of the six sections. One can find information on an issue either by using the table of contents, which lists the 60 indicators, or by using the index, which references not only the indicators but also the supplemental tables. When an updated indicator is not available in this volume, the index references the indicator number and edition of *The Condition of Education* that last published the indicator.

Each of the six sections of indicators is introduced with a short essay that interprets and summarizes some of the results that are found in the indicators in that section as they relate to an important issue. In addition, the results from throughout the volume as they relate to particular issues that cut across the sections of the report are pulled together in this overview.

At the bottom of each of the two indicator pages is the source of the data for the indicator. A description of the sources is provided starting on page 433. Sometimes more knowledge about the type of survey used to calculate the indicator can give the reader insights into interpreting the indicator. Some of the terms used in this report may not be familiar to all readers. Thus, a glossary is provided starting on page 461.

Not all statistics are indicators. Indicators are carefully designed to allow comparisons over time, across countries, between groups, between sectors of education, and so forth. For this reason, the same data may be used to construct several indicators. For example, *Indicator 2* uses data on enrollment in pre-kindergarten (pre-K) to calculate the percentage of 3- to 4-year-olds enrolled in pre-K. This indicator is informative about opportunities available or pursued, and it can be compared over time and between age groups. *Indicator 36* also uses data on enrollment to calculate, for example, the percentage of students enrolled in pre-K programs who are from low income families. This indicator is informative about the changing composition of students, and it can be compared over time and to the similar measure for kindergarten students.

In the remainder of the overview, we gather some of the disparate pieces of evidence on selected issues: 1) the relationship of family background to educational outcomes and opportunities, 2) a contrast of the characteristics of public elementary and secondary schools in different areas, 3) a review of international comparisons available in the volume, and 4) trends in the cost of higher education. These issues were selected, first because of their importance to current policy discussions, and second because a substantial amount of new information on these issues has been included in this volume. References to indicators and tables are given in parentheses. The tables referred to are the supplemental tables starting on page 159. Occasionally, references to indicators in a previous edition of *The Condition of Education* are given and can be recognized by the year added to the reference.

## Family Background

The responsibility for the education of children is shared by the family and the school. A student's family has a strong influence on his or her educational achievement. The resources and support a student has at home can reinforce and add to school learning experiences. For some children, conditions at home work against their ability to learn in school. Comparisons by the level of family income and by the level of education of parents are available for several of the indicators in this volume. These comparisons illustrate the strong relationship between family background and educational achievement.

*Do children from low income families progress more slowly through the elementary grades than other children?*

- Children from low income families were less likely than children from high income families to get a headstart. In 1991, 22 percent of low income children were enrolled in pre-K compared to 53 percent of high income children (Table 2-3). This may be due to the expense of nursery school—63 percent of pre-K enrollment was in private schools (*Indicator 36*).
- First grade children from low income families were more likely than children from high income families to be 7 or older in October—27 percent compared to 18 percent (*Indicator 3*). This may have been due to a higher percentage of children from low income families repeating kindergarten or first grade.[1]
- Fourth grade children from low income families were more likely to be 10 or older—39 percent compared to 20 percent; and seventh grade children from low income families were more likely to be 13 or older—48 percent compared to 18 percent.
- The difference between the percentage of children from low and high income families who are above the typical age for their grade increases from 9 percent in first grade, to 19 percent in fourth grade, to 30 percent in seventh grade.

These statistics suggest that a substantial percentage of children from low income families repeat a grade by the time they reach eighth grade.[2]

*How does the progress of high school students from low income families compare to that of their counterparts from high income families?* A higher percentage of high school students from low income families drops out of school each year than students from high income families. Between October 1990 and October 1991, 11 percent of students from low income families dropped out compared to 1 percent from high income families (*Indicator 4*). Consequently, a larger percentage of 19- to 20-year-olds from low income families than from high income families was out of school *and* had not finished high school—30 compared to 3 percent (Table 20-3).[3] Among students who graduate from high school, a lower percentage of graduates from low income families enrolled in college the October following graduation—40 compared to 78 percent in 1991 (Table 5-3). In summary, students from low income families tend to progress more slowly and not as far through the education system than students from high income families.

*When students from low income families leave the education system, do they make a smooth transition to the workforce?* Among high school graduates who did not enroll in college, those from low-income families were less likely to be employed than those from *high*-income families (49 percent compared to 73 percent). Among dropouts, those from low-income families were less likely to be employed than those from *middle*-income families—27 percent compared to 42 percent (Table 30-6). Too few high school dropouts are from high income families to allow comparisons.

*How do students whose parents have little education spend their time outside of school compared to their counterparts whose parents have a great deal of education?* When not in school, students whose parents are not high school graduates spend less time doing homework and more time watching television than students whose parents are college graduates. For example, in 1990, 56 percent of 17-year-old students whose parents had not completed high school—compared to 72 percent of students whose parents had completed college—reported doing at least one hour of homework each day. On the other hand, 62 percent and 40 percent, respectively, reported watching at least 3 hours of television each day (*Indicator 46*).

Students whose parents had not completed high school were much less likely than those whose parents had completed college to describe their high school program as academic/college prep (28 percent compared to 68 percent) and much more likely to describe their program as general (52 percent compared to 28 percent) or vocational/technical (20 percent compared to 4 percent)(*Indicator 24*). Although few high schools have formal programs of these types, the students' responses to these questions are indicative of their educational aspirations, the emphasis of the core courses they are taking, and their choice of electives.[4]

*How does the educational achievement of students whose parents have little education compare to their counterparts whose parents have a great deal of education?* High school students whose parents have not completed high school have lower average academic achievement than students whose parents have completed at least some college. Among 17-year-olds in 1990, the average reading proficiencies of these two groups of students were 270 and 300 (on a 500 point scale), respectively. To help understand the magnitude of this difference consider that the average reading proficiency of 13-year-old students whose parents had completed at least some college was 267, very similar to the average reading proficiency of 17-year-old students whose parents had not completed high school.

Similar patterns appeared in mathematics, science, and writing. In mathematics, the average proficiencies of 17-year-olds were 285 and 316 for those whose parents had not completed high school and whose parents had completed college, respectively (among 13-year-olds whose parents had completed college, average mathematics proficiency was 280.) In science, the average proficiencies were 261 and 306 (among 13-year-olds whose parents had completed college, average mathematics proficiency was 268). In writing, among 11th graders, the average proficiencies were 190 and 221 (among 8th graders, the average proficiency of students whose parents had completed college was 204).

Among students who take the SAT, both verbal (V) and math (M) scores were higher among those whose parents had more education. The average scores among students whose parents had not finished high school were 338 (V) and 409 (M) in 1992. The scores among those whose parents had a bachelor's degree were 444 (V) and 499 (M). The average SAT scores for those whose parents had a graduate degree were still higher, 476 (V) and 530 (M) (Table 18-7).

Among college students, a lower percentage of students whose parents had not completed high school (or who were from low income families) were enrolled in private Ph.D.-granting institutions than students whose parents had completed college (or who were from high income families). On the other hand, a higher percentage of students whose parents had not completed high school (or who were from low income families) were enrolled in private for-profit and public 2-year colleges than students whose parents had completed college (or who were from high income families) (*Indicator 45*).

In summary, the education level of parents and the income of a student's family are strongly associated with progress through the education system, educational attainment, and educational achievement.

### Are All Public Schools the Same?

Statistics and public statements often treat public schools as if they were all the same. However, there are big differences between schools. Many of the indicators in this volume break down public schools by the type of community they are in, such as the urbanicity of their location, or characteristics of the families in the community. These comparisons provide one way to investigate the great diversity among public schools. However, because different data sources categorize schools in different ways, a consistent description across data sources of differences between schools is not possible.

*Does the average achievement of students vary across schools?* Yes, it varies a great deal. For example, differences in the average writing achievement of 11th grade students in advantaged urban schools compared to those in disadvantaged urban schools are larger than differences between 11th and 8th grade students within each type of urban school (Table 12-1).[5] The differences are similar in magnitude to differences between 11th grade students whose parents graduated from college and students whose parents did not finish high school (Table 12-2). Although differences in average proficiencies in reading, mathematics, and science by type of community are not presented in this volume, they are available in *Trends in Academic Progress* (1991), and the patterns are similar to the results for writing.[6] These differences reflect many factors including some that are not under the control of schools, such as the family background of the students and conditions in the community; some that are only partially under the control of the schools, such as the type and quantity of educational resources available; and some that are under the control of schools, such as how these available resources are used.

*Do the high school courses students take vary across schools in different settings?* No, they appear to be remarkably similar. Among 1990 high school graduates, course-taking in mathematics and science was generally similar for those from schools in big cities, the urban fringe, medium-size cities, and small places (Table 25-3). The percentage of graduates taking the course of studies recommended by *A Nation At Risk* was also similar for students in these different locations (Table 26-1 and 26-2).

*Is the racial/ethnic mix of students similar in schools in different types of communities?* No, the patterns are substantially different. In the central city of metropolitan areas, the percentage of students who are black or Hispanic was 53 percent in 1991 compared to 20 percent outside the central city of metropolitan areas, and 16 percent in non-metropolitan areas (Table 43-1).

*Does the influence of teachers over important school policies and classroom decisions vary across schools in central cities, towns, and rural areas?* No, particularly when the differences are contrasted to differences between public schools as a whole and private schools. However, among other groups, school boards appear to be more influential and principals less influential in central cities than in either urban fringe/large towns or small towns/rural areas (*Indicator 47*).

Generally few teachers (16 percent or less) in public secondary schools reported in 1990–91 having a great deal of influence on policies such as discipline, content of teacher in-service training programs, grouping students by ability, and establishing curriculum; the pattern is similar across types of communities. More teachers (between 25 and 69 percent) reported having complete control over classroom decisions such as selecting textbooks, choosing teaching techniques, determining amount of homework, and disciplining students than over school policies such as those listed above. Again, the pattern is similar across types of communities. A notable exception is that the percentage of teachers in secondary schools having complete control over selection of textbooks and over selection of course content and topics was lower in central cities and in urban fringe/large towns than in small town/rural areas (*Indicator 47*).

In public secondary schools, only 46 percent of principals in central cities reported that *they* have a great deal of control over discipline policy compared to 60 percent of principals in small towns/rural areas (and compared to 81 percent of principals of private schools). On the other hand, 43 percent of principals in central city public secondary schools reported that *school boards* have a great deal of influence over discipline policy compared to 33 percent in small towns/rural areas (*Indicator 47*).

*Does the amount of time students spend in classrooms in public schools vary depending on the type of community the school is in?* No. The average school year in central city public schools is the same as in urban fringe/large town schools and 1 day longer than in small town/rural schools. On the other hand, on average, the school *day* is slightly longer in small town/rural schools than in either central city schools or in urban fringe/large town schools. The result is that on average there were 25 more hours in the school year in small town/rural schools than in central city schools during the 1990–91 school year (*Indicator 49*).

*Are students in public schools in large metropolitan areas more likely than students in smaller metropolitan areas or non-metropolitan areas to be victimized in school?* Surprisingly, the answer is no. Generally similar percentages of seniors in high schools in large metropolitan statistical areas (MSAs), other MSAs, and non-MSAs reported having been victimized by having something stolen, having their property deliberately damaged, or being threatened without a weapon. And to the contrary, generally lower percentages of seniors in large MSAs than in non-MSAs reported having been victimized by being injured with a weapon, being threatened with a weapon, or being injured without a weapon (Table 50-1).

*Do teacher salaries vary according to the type of school and community?* Teacher salaries are on the one hand a large component of the cost of education and on the other hand a possibly important determinant in attracting and retaining teachers. Salaries can affect the length of time teachers stay in teaching, the talent that is attracted to teaching, and the degree of professionalism in the teaching profession. In addition, higher teacher salaries can compensate for difficult working conditions and higher local costs of living. These issues raise the question of how much teacher salaries vary across schools and communities.

Average teacher salaries are much higher in public schools than in private schools, but within public schools there is only a moderate amount of variation in the salaries of inexperienced teachers. For example, for the 1990–91 school year, the average scheduled teacher salary for a teacher with a bachelor's degree and no experience ranged from $19,000 in small public school districts (fewer than 1000 students) to $21,800 in large districts (10,000 or more students), or from $19,600 for public school districts with less than 20 percent minority enrollment to $20,700 for districts with 20 percent or more minority enrollment (Table 58-5).

There is somewhat more variation in the salaries of experienced teachers. For example, the average scheduled salary for a teacher with a master's degree and 20 years of experience ranged from $30,600 in small public school districts to $37,700 in large districts. Average salaries of elementary school teachers are somewhat lower than average salaries of secondary school teachers (Table 58-3).

In summary, in some ways public schools are very different from each other. This is particularly apparent when the achievement of students is compared across disadvantaged and advantaged urban communities, or when the racial/ethnic mix of students is compared across parts of metropolitan areas. In other ways, public schools are very similar. This is the case for high school course-taking patterns and teacher salaries when compared across types of communities.

## International Comparisons

Using indicators to assess the condition of education requires making comparisons. Most of the comparisons in this volume are over time to provide a perspective on whether things are getting better, worse, or staying about the same. Other indicators rely on comparisons among racial/ethnic groups to determine differences between minority groups and whites (see the overview in *The Condition of Education 1992*, for a summary of differences among minority groups on education indicators.) One of the most interesting types of comparisons is across countries. What students in other countries have achieved is a yardstick against which the achievement of U.S. students can be assessed. This type of comparison is particularly compelling because the U.S. economy is increasingly a part of the global economy, and the standard of living in the United States is increasingly dependent on the ability of U.S. workers and industry to be more productive than workers and industries abroad.

Nearly universal completion of high school is a goal among policymakers in the United States.[7] In March 1991, 85 percent of U.S. 25- to 29-year-olds had completed high school, up from 78 percent 2 decades earlier (Table 22-1, 1992). Compared to other countries, completion of secondary education in the United States is high—83 percent of 25- to 64-year-olds have completed high school in the United States, more than in Japan, Germany, France, the United Kingdom, Italy, and Canada (*Indicator 23*). However, reflecting recent trends in these countries, the U.S. advantage among 25- to 34-year-olds is much smaller or reversed. For example, in the United States 86 percent of 25- to 34-year-olds had completed high school, somewhat less than in Japan (91 percent) and Germany (89 percent) and about the same as in Canada (86 percent). Interestingly, there is a large gender gap in higher education completion in Japan (34 percent of male 25- to 34-year-olds compared to 12 percent of females) compared to the United States (24 percent of both males and females).

College graduation rates have increased very little since 1975 in the United States, but are higher than in other large industrialized countries. In 1992, 24 percent of U.S. 25- to 29-year-old who had graduated from high school had a bachelor's degree or higher (*Indicator 22*). One year earlier, 23 percent of U.S. 25- to 64-year-olds had completed higher education, compared to 13 percent in Japan, 11 percent in Germany, 10 percent in the United Kingdom, 10 percent in France, and 17 percent in Canada. Only in Japan do trends suggest a closing of the gap versus the United States. Among 25- to 34-year-olds, 24 percent had completed higher education in the United States compared to 23 percent in Japan (*Indicator 23*).

*In an international perspective, the U.S. population appears well-schooled, but how much do U.S. students learn in school?* International comparisons are available in three subject areas: reading literacy, mathematics, and science (*Indicators 15, 16, and 17*). One general pattern is that students in the United States compared well to those in other countries in reading literacy but not well in mathematics and science achievement. Another is that variation between better and poorer performers in the United States was larger than differences between the typical performer in the United States and those in other countries.

*Reading.* In reading literacy, the average overall score among U.S. 9-year-olds was 547 on a scale from 200 to 800. Among the five largest countries participating in the study, the average score varied from 503 in West Germany to 547 in the United States. The average score was 531 in France. Among U.S. 14-year-olds the average overall score was 535, and scores in the five largest countries varied from 490 in Spain to 549 in France. It was 522 in West Germany (*Indicator 17*).

The International Reading Literacy study assessed three domains of reading literacy: 1) narrative prose, 2) expository prose, and 3) documents. Students receive a scale score in each domain. In addition, an overall average scale score is calculated which is the simple average of the three domain averages. The scales are set so that 500 represents the average score for all students in the age group and so that individual scores range from about 200 to

800. In the narrative domain, 9-year-olds who earned a score near the international average of 500, typically could read a story and answer simple questions about it. Students who earned scores over 600 typically could read long complex stories or complicated figures and make inferences about major themes, the motives of characters, or unusual relationships in the information given. Students who earned scores below 400 typically could respond correctly only on short simple passages where the items required limited processing or the answer was clearly stated in the passage.

There is much less variation between countries than within countries. For example, among the largest five countries participating in the study, the average *narrative* scale score among 9-year-olds varied from 491 in West Germany to 553 in the United States—a difference of 62 scale points. By comparison, within the United States the difference between the 10th and 90th percentiles in scores was 235 scale points (420 to 655).[8]

Among 14-year-olds, the results were generally similar to those for 9-year-olds. For example, the average *expository* scale score among 14-year-olds varied from 495 in Spain to 546 in France. In the United States the average was 539. Within the United States, the score at the 10th percentile was 410 and at the 90th percentile, 673.

*Mathematics.* Another study, The International Assessment of Educational Progress, assessed student proficiencies in mathematics and science. In mathematics, among the seven largest countries (who assessed virtually all age-eligible children) the median proficiency score of 13-year-olds ranged from 495 in the United States to 550 in Taiwan. The median proficiency score was 521 in France and 515 in Canada (*Indicator 15*).

To help understand what these differences mean, it is useful to consider two other types of comparisons: 1) differences within the United States between the mathematics proficiency of better and poorer performers of the same age, and 2) differences within countries between the mathematics proficiency of 9-year-olds and 13-year-olds.

On the first type of comparison, the 10th percentile of mathematics proficiency among 13-year-olds within the United States was 430 and the 90th percentile was 554, a difference of 124 points compared to a difference of 55 points between the median Taiwanese and U.S. 13-year-old. This again suggests that variation among students within countries is far larger than variation between countries.

On the second type of comparison, the median Taiwanese 9- and 13-year-old earned scores of 457 and 550, respectively, or about 23 scale points per year of age. The median U.S. 13-year-old earned a score of 495 which is less than halfway between the scores of 9- and 13-year-old Taiwanese students. This suggests that U.S. students at age 13 may be performing in mathematics at levels similar to Taiwanese students 2 or 3 years younger (*Indicator 15*).

*Science.* In science, the median proficiency score of 13-year-olds ranged from 523 in the United States to 575 in Korea. It was 534 in France and Canada. Again, as a means to better understand the significance of the differences, consider the same types of comparisons that were made for mathematics. First, the difference between the 10th and 90th percentile scores in science proficiency among U.S. 13-year-olds was 165 points, which is more than 3 times the 52 point difference between the median U.S. and Korean 13-year-old.

Second, the median Korean 9- and 13-year-old earned scores of 460 and 575, respectively, and U.S. 13-year-olds scored 523. This suggests that U.S. 13-year-olds may be performing at levels similar to Korean students 2 years younger (*Indicator 16*).

*Can the differences in achievement be explained? Do differences in resources invested in education contribute to the differences in achievement?* In international comparisons of public (financial) support of education, a variety of measures are used. The three most important are: 1) expenditures to support education financed from public sources divided by the number of students enrolled in education, including those enrolled in private schools, 2) the same expenditures, but expressed as a percentage of gross domestic product (GDP), and 3) the first measure divided by GDP per capita.[9] On the first measure, the United States provided $3,917 per student in grades 1–12 from public sources during the 1988–89 school year. This was more (often substantially more) than the other G-7 countries (Japan, West Germany, France, the United Kingdom, Italy, and Canada) provided.[10] In higher education, where there is a large private sector in the United States, the U.S. provided $5,643 per full-time-equivalent (FTE) student in higher education from public sources, which was less than the United Kingdom and Canada provided, but more than Japan, West Germany, France, and Italy provided (*Indicator 53*).

*Can the differences in achievement among countries be understood in terms of how much time students spend in school?* Other countries often have more days in the school year—about 220 in Japan, Korea, and Taiwan, for example—compared to 178 in the United States. However, in these cases the amount of instructional time per day is generally less—4.0, 4.4, and 5.3 hours in Japan, Korea, and Taiwan, respectively—compared to 5.6 hours in the United States (*Indicator 49*). The result is that students in the United States spend about 1,000 hours in instruction each school year, more than their counterparts in Japan, Germany, England, Italy, Canada, and Korea.

*Can the differences in achievement among countries be understood in terms of how students spend their time outside of school?* It appears that students in the United States spend less time doing homework and more time watching television than their counterparts in other large industrialized countries. In 1991, among 9-year-olds the differences were moderate. Eighty percent of 9-year-olds in the United States had homework. In other countries, similar or higher percentages of 9-year-olds had homework. The exception was England where less than half of 9-year-olds had homework (Table 46-6).

Among 13-year-olds the differences were more pronounced. Thirty percent of 13-year-olds in the United States had 2 or more hours of homework each day compared to 79, 55, 41, and 41 percent in Italy, France, Taiwan, and Korea, respectively. The percentages in England and Canada were similar to the percentage in the United States.

*On the other hand, how much time do students spend doing things such as watching television that could compete with time spent doing homework?* In 1991, 75 percent of U.S. 9-year-olds watched more than an hour of television each day. Similarly high percentages of 9-year-olds also did so in Korea, England, Scotland, Ireland, and Canada, but a lower percentage did so in Italy and Taiwan. Generally, 13-year-olds watch more television than 9-year-olds. For example, in 1991, 84 percent of U.S. 13-year-olds compared to 75 percent of 9-year-olds watched more than an hour of television each day. In France, Italy, and Taiwan a substantially smaller percentage of 13-year-olds watched more than an hour of television each day than did so in the United States, and in Canada and England a similar percentage watched more than an hour as did so in the United States (Table 46-7). Apparently, the time spent watching television is not the precise problem; researchers have suggested the content of television may be a more useful factor to examine.

In summary, U.S. students spend a substantial number of years in school compared to students in other countries; however, in mathematics and science, U.S students do not achieve as well as their counterparts in other countries. The differences in achievement are not clearly associated with differences in financial resources invested in education. There are many areas of possible differences, such as content of the curriculum or expectations of students, where current information to compare education systems is not yet available.[11]

## The Cost of Higher Education

Since 1980, students and their families have faced college education costs that were increasing faster than their income. Whereas increases in median family income lagged slightly behind inflation (2 percent behind between 1980 and 1991), charges for tuition and room and board rose 32 percent more than inflation at public colleges and universities and 55 percent more at private colleges and universities. These increases may have been particularly difficult for low compared to high income families—family income at the 25th percentile lagged inflation by 8 percent whereas family income at the 75th percentile was 5 percent ahead of inflation between 1980 and 1991 (*Indicator 9*).

A majority of students receive financial aid to attend college. Among full-time undergraduates enrolled in the fall of 1989, 56 percent received financial aid of some kind (compared to 60 percent in 1986). Among those who received financial aid, the average amount was $4,905 during the 1989–90 academic year (compared to $4,531 in 1986–87). Financial aid is available from federal, state, and institutional sources. In 1989–90, 42 percent of full-time undergraduates received federal financial aid, 21 percent received state financial aid, and 21 percent received institutional aid (*Indicator 56*).

*What is the cost of college after deducting financial aid?* Among full-time dependent undergraduates, 27 percent of the total cost of college attendance was covered by financial aid. For these students, the average total cost was $8,444 for 1989–90. After deducting financial aid, the average cost was $6,286 (*Indicator 10*). The amount of financial aid received is dependent on the type of institution (because cost varies across types) and on family income (because the amount the family is expected to contribute is related to family income). The percentage of cost met by financial aid varies from 15 percent for students attending public 2-year colleges to 43 percent for those attending private 4-year colleges. Among those attending private 4-year colleges, the percentages of cost met by aid varies from 57 percent for students from low income families (lowest quartile) to 15 percent for students from high income families (highest quartile).

Colleges and universities increasingly depend on tuition and fees for revenue: between 1980 and 1991, at public institutions the share of revenue generated by tuition and fees increased from 16 to 21 percent; at private institutions, the share increased from 52 to 58 percent (Table 54-2).

Public institutions decreasingly depend on government appropriations: between 1980 and 1991, the share of revenue from these sources decreased from 63 to 58 percent. Private institutions decreasingly depend on contracts and grants from government and private sources: between 1980 and 1991, the share of revenue from these sources decreased from 35 to 29 percent.

Expenditures per full-time-equivalent (FTE) student for instruction increased at most types of colleges and universities between 1980–81 and 1990–91, although not as much as tuition charges increased. At public universities, expenditures per FTE for instruction increased 13 percent; at private universities, 38 percent; and at public 2-year colleges, 6 percent (*Indicator 55*, Table 55-1).

Colleges and universities faced increasing costs during the 1980s. For example, between 1980–81 and 1990–91 salaries of full-time faculty increased 18 to 21 percent at public institutions (depending on rank). Salaries increased even more at private institutions (22 to 24 percent) (Table 59-1).

In summary, between 1980 and 1991, charges for tuition and room and board at colleges and universities increased dramatically. Some of the cost was offset by financial aid, the average amount of which increased between 1986–87 and 1989–90. Colleges and universities, both public and private, increasingly depend on tuition for revenue and decreasingly depend on appropriations from governments in the case of public institutions, or grants and contracts from government and private sources in the case of private institutions. Colleges and universities are also spending more for instruction; however, this increase may be largely due to increasing salaries for faculty.

## Conclusion

The preceding discussion has highlighted only a few of the issues treated by the 60 indicators in this volume. *The Condition of Education* presents data and analyses on a wide variety of issues in education. The reader is encouraged to examine the introduction to each section for discussion of other issues, to peruse the indicators of interest,

**and to use the supplemental tables for additional details.**

NOTES:

1. Among eighth graders in 1988, 3.2 percent of students from the lowest SES quartile had repeated kindergarten compared to 1.8 percent of those from the highest SES quartile, and 8.5 percent of students from the lowest quartile had repeated first grade compared to 1.0 percent of students from the highest quartile (*A Profile of the American Eighth Grader: NELS:88 Student Descriptive Summary*, 1990, Table 1.3).

2. Among eighth graders in 1988, 31 percent of students from the lowest SES quartile had repeated at least one grade compared to 8 percent of those from the highest SES quartile (*A Profile of the American Eighth Grader: NELS:88 Student Descriptive Summary*, 1990 Table 1.3).)

3. Differences in family income may account for most of the differences in dropout rates between racial/ethnic groups. When comparisons are drawn across racial/ethnic groups within an income level, there were no differences in status dropout rates of white and black 16- to 24-year-olds in 1991. The rates for Hispanic 16- to 24-year-olds were, however, higher within each income level (*Dropout Rates in the United States: 1991*, September 1992, p.17, Table 10.)

4. Gamoran, Adam and Mark Berends. "The Effects of Stratification in Secondary Schools: Synthesis of Survey and Ethnographic Research," *Review of Educational Research*, volume 57(4), 1987.

5. "Advantaged" communities are those where the school principal estimates that a high percentage of students' parents are managers and professionals. "Disadvantaged" communities are those where the principal estimates that a high percentage of parents are on welfare or chronically without work.

6. U.S. Department of Education, National Center for Education Statistics, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969-70 to 1990; Mathematics, 1973 to 1990; Reading, 1971 to 1990; and Writing, 1984 to 1990*, November 1991, pages 31, 68, 116, and 156.

7. Goal 2 of the National Education Goals, set by the President and the Governors in 1989, is for the high school graduation rate to increase to at least 90 percent by the year 2000.

8. The average (or median) scale score is a measure of the performance of a typical student within the country. The 10th percentile scale score is a measure of the performance of a relatively poor reader within the country. The 90th percentile scale score is a measure of the performance of a very good reader within the country.

9. The measure of expenditure used excludes funds for construction of buildings or to pay off loans used to finance construction. The division in the first measure is by all students because public funds can go to both public and private institutions. In the United States this phenomenon is relatively rare at the elementary and secondary level, but is not at the postsecondary level where students can use, for example, federal financial aid to attend private colleges and universities. The first measure requires converting the currencies of other countries to U.S. dollars. This is done using a purchasing power parity index, which is based on pricing the same market basket of goods in each country.

10. The G-7 countries are the seven largest national economies in the world as measured by Gross National Product (GNP).

11. McKnight, Curtis C. et al. *The Underachieving Curriculum: Assessing U.S. School Mathematics From An International Perspective*, International Association for the Evaluation of Educational Achievement, 1989.

# Access, Participation, and Progress

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**Participation**
Enrollment rates among children 6 to 15 years old are essentially 100 percent, while enrollment rates among children 3, 4, and 5 years old have increased substantially over the past two decades. In 1991, 28 percent of 3-year-olds were enrolled in school, compared to 16 percent in 1972; 53 percent of 4-year-olds were enrolled in school, up from 34 percent in 1972. In 1991, 91 percent of 5-year-olds were enrolled, up from 86 percent in 1972 (*Indicator 1*). Virtually all children have attended kindergarten before starting 1st grade.[1]

Enrollment rates (in schools and colleges) among 16- to 23-year-olds have also increased over the past two decades. For example, the enrollment rate of 22-year-olds was 28 percent in 1990, up from 21 percent in 1972 (*Indicator 1*). These increases in large part account for the fact that enrollment in colleges has not declined despite smaller high school graduating classes.

While the *number* of 24- to 34-year-old students in colleges and universities has increased, surprisingly, enrollment *rates* generally have not increased among this age group (Table 1-1). The increase in the number of older students is due to an increasing number of older people in the population (the aging of those born during the post World War II baby boom), not to an increasing *percentage* of the older population enrolling in college.

Participation in education among adults is extensive. Among 25- to 34-year-olds in October 1991, the school enrollment rate (in 2- and 4-year colleges and universities) varied from 12 percent for 25-year-olds to 5 percent for 34-year-olds (*Indicator 1*). However, the percentage of 25- to 34-year-olds who indicated having participated in adult education over a 12-month period in 1990-91 was 37 percent (*Indicator 8*).

The trends outlined above were not the same in all racial/ethnic groups. The increase in enrollment rates among 3- and 4-year-olds in pre-K was larger for whites than for blacks and Hispanics. During the 1980s, among 3- and 4-year-olds, the percentage of whites enrolled in pre-K increased while for blacks and Hispanics this rate was generally stable. On the other hand, among 5-year-olds, the difference in the percentage of whites and blacks enrolled in kindergarten disappeared between 1974 and 1990 (*Indicator 2*).

At the college level, among high school graduates 16 to 24 years old, the percentage of white males, white females, and black males enrolled as undergraduates increased 8 percentage points during the 1980s (for black males, the increase was largely confined to the last 3 years); for black females, Hispanic males, and Hispanic females there was no change in this college attendance rate (*Indicator 9*).

**Access**
Access to preschool may be affected by income disparities because nursery schools are primarily private—63 percent of pre-K enrollment in 1991 (*Indicator 36*). In 1991, 53 percent of 3- and 4-year-olds from high income families were enrolled in pre-K compared to 22 percent of those from low income families (*Indicator 2*). This difference is larger than it was in the early 1970s. On the other hand, kindergartens are primarily public (85 percent of enrollment in 1991). In 1991, similar percentages of 5-year-olds from high and low income families were enrolled in kindergarten.

Since 1980, the cost of college attendance has increased much faster than family income. Tuition and room and board at public institutions increased 32 percent (in constant dollars) between 1980 and 1991. However, average tuition and fees at public colleges and universities as a percentage of median family income had declined between 1964 and 1980, and in 1991 is about the same as it was in 1964 (*Indicator 10*). Student financial aid helps reduce the cost of attending college, particularly for students from low income families. Among dependent full-time students enrolled in the fall 1989 term, an average of 27 percent of the total cost of attendance was covered by student financial aid (*Indicator 10*). This percentage ranges from 53 percent for students from families in the lowest income quartile to 10 percent for students from families in the top income quartile.

Despite the increasing cost of college attendance, the percentage of high school graduates who enrolled in college following graduation increased from 49 percent in 1980 to 63 percent in 1991 (*Indicator 5*). However, high school graduates from low income families were less likely than those from high income families to enroll in college (40 percent compared to 78 percent in 1991) (Table 5-2). On the other hand, the percentage of college graduates who enrolled in graduate school following graduation decreased from 17 percent in 1977 to 12 percent in 1990 (*Indicator 7*). Asian undergraduates were more likely to continue their education after graduation than other groups (Table 7-1).

**Persistence**

As participation is essentially universal for children 6 to 15 years old, persistence is not an issue; however, progress through the grades is. An indication of such progress is the relationship between age and grade. Over the last 15 years, there was a large increase in the percentage of first, fourth, and seventh graders who were above the modal age for their grade (*Indicator 3*, Table 3-1 and 3-2). The increases appear to be due to changes in or before first grade. There is no evidence of increasing proportions of children falling behind modal grade for their age between first and fourth grades or fourth and seventh grades. The changes at the first grade level may be due to children starting school later or repeating kindergarten or repeating first grade. Contributing to this trend may be the fact that some states have changed their requirements pertaining to age for starting school.

Overall, the persistence rate in high school was 96 percent in 1991; that is, 96 percent of students in grades 10 to 12 in the fall of 1990 were enrolled again in the fall of 1991 (or had graduated during the year). The other 4 percent dropped out of school during the year or failed to return in the fall.

Persistence in high school is strongly associated with family income. For students from high income families, the persistence rate was 99 percent and for students from low income families, it was 89 percent. A hopeful sign is that for students from low income families the persistence rate has gradually increased over the past two decades from below 85 percent to near 90 percent (Table 5-2).

In higher education, persistence—that is, continued attendance from one year to the next—and full-time attendance are associated with higher rates of degree attainment.[2] Continuous attendance rates among college students generally were lower than among high school students (84 compared to 97 percent between October 1990 and October 1991). In addition, the grade progression rate was lower for college students. Among those who were enrolled in both October 1990 and October 1991, 88 percent of college students advanced a level compared to 97 percent of high school students (Table 4-4).

Students are also taking longer to get the bachelor's degree—the percentage of college graduates who completed the degree within 5 years of graduating from high school was 57 percent in 1991 compared to 67 percent in 1977 (*Indicator 6*).

NOTE:

1. U.S. Department of Education, National Center for Educational Statistics, National Household Education Survey, spring 1991 (reported in Statistics in Brief, "Experiences in Child Care and Early Childhood Programs of First and Second Graders," January 1992.)

2. Carroll, C. Dennis. "College Persistence and Degree Attainment for 1980 High School Graduates: Hazards for Transfers, Stopouts, and Part-Timers," National Center for Education Statistics, 89-302, January, 1989.

## School enrollment rates by age

*Learning occurs throughout a person's life, even though participation in formal education traditionally has occurred during a person's youth. Changes over time in the enrollment rates of very young and older age cohorts are an indication of the changing role of formal education in lifelong learning.*

- **Since the early 1970s, practically all children between the ages of 6 and 15 have been enrolled in school.**
- **Enrollment rates for 3- to 5-year-olds were substantially higher in 1991 than in 1972. However, most of the increase occurred before 1981.**
- **Enrollment rates among 16- to 23-year-olds were higher in 1991 than in 1972, with nearly all the increase occurring after 1981; enrollment rates among those over 23 did not increase over the period.**

### Percentage of population enrolled in school, by age: October 1972, 1981, and 1991

| | Age | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1972 | 15.8 | 34.0 | 85.7 | 98.5 | 99.6 | 99.9 | 99.8 | 100.0 | 99.8 | 99.9 | 99.8 | 98.6 | 97.7 | 93.8 | 85.6 | 57.5 |
| 1981 | 27.6 | 45.4 | 90.2 | 98.9 | 99.6 | 99.7 | 99.7 | 99.9 | 99.7 | 99.6 | 99.9 | 99.0 | 97.7 | 94.6 | 87.3 | 57.9 |
| 1991 | 28.2 | 53.0 | 91.4 | 99.4 | 99.3 | 99.7 | 99.8 | 99.8 | 99.7 | 99.7 | 99.6 | 99.5 | 98.0 | 96.5 | 90.0 | 65.5 |

| | Age | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 1972 | 42.7 | 37.8 | 31.2 | 20.5 | 16.9 | 15.2 | 13.8 | 11.9 | 9.9 | 8.4 | 9.1 | 7.1 | 6.8 | 6.7 | 5.9 | 5.6 |
| 1981 | 43.4 | 36.5 | 29.7 | 21.9 | 16.4 | 14.2 | 11.6 | 10.7 | 9.2 | 9.3 | 8.1 | 8.7 | 8.3 | 8.0 | 6.7 | 6.2 |
| 1991 | 54.0 | 43.6 | 40.5 | 28.2 | 20.9 | 17.0 | 12.4 | 11.4 | 10.7 | 9.1 | 7.7 | 7.0 | 7.4 | 6.6 | 5.4 | 4.6 |

### Percentage of population enrolled in school for selected ages: October 1972–1991

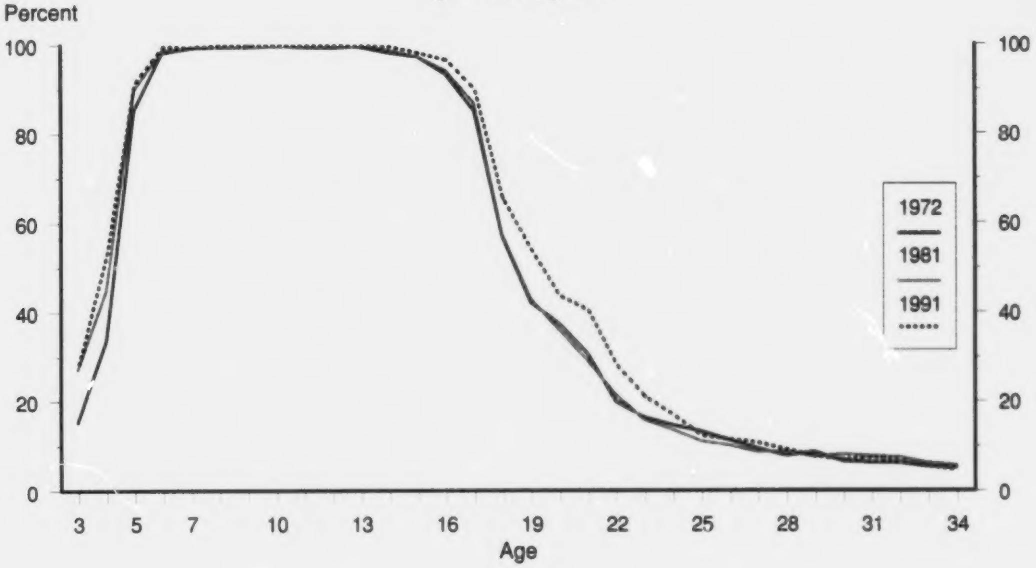
| | Age | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| October | 3 | 4 | 5 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1972 | 15.8 | 34.0 | 85.7 | 93.8 | 85.6 | 57.5 | 42.7 | 37.8 | 31.2 | 20.5 | 16.9 |
| 1973 | 14.8 | 35.1 | 86.8 | 93.2 | 84.5 | 52.2 | 40.2 | 33.4 | 30.2 | 19.0 | 14.4 |
| 1974 | 20.0 | 38.3 | 89.9 | 93.7 | 82.9 | 53.2 | 39.4 | 33.4 | 31.6 | 20.1 | 15.9 |
| 1975 | 22.1 | 41.5 | 90.9 | 94.3 | 84.3 | 56.2 | 42.9 | 36.5 | 31.6 | 21.9 | 17.8 |
| 1976 | 20.8 | 42.7 | 92.3 | 93.3 | 86.2 | 53.0 | 44.8 | 37.1 | 30.9 | 22.3 | 16.7 |
| 1977 | 22.0 | 43.2 | 92.4 | 93.9 | 84.9 | 56.9 | 41.8 | 37.1 | 32.9 | 21.8 | 17.6 |
| 1978 | 25.7 | 44.7 | 92.1 | 94.7 | 85.0 | 52.4 | 42.7 | 33.7 | 28.6 | 21.9 | 16.2 |
| 1979 | 25.4 | 46.1 | 93.0 | 94.4 | 85.3 | 55.9 | 41.3 | 35.1 | 30.0 | 21.1 | 17.3 |
| 1980 | 27.6 | 47.2 | 93.2 | 93.9 | 85.2 | 54.6 | 43.0 | 33.9 | 30.6 | 22.3 | 16.7 |
| 1981 | 27.6 | 45.4 | 90.2 | 94.6 | 87.3 | 57.9 | 43.4 | 36.5 | 29.7 | 21.9 | 16.4 |
| 1982 | 27.6 | 46.1 | 91.5 | 94.6 | 88.1 | 57.1 | 43.4 | 38.9 | 32.7 | 22.2 | 17.2 |
| 1983 | 28.2 | 47.6 | 92.6 | 96.3 | 88.6 | 58.4 | 46.6 | 35.8 | 32.5 | 24.1 | 16.4 |
| 1984 | 28.5 | 46.5 | 91.4 | 95.3 | 88.5 | 58.6 | 43.1 | 37.7 | 31.4 | 22.5 | 17.2 |
| 1985 | 29.2 | 49.5 | 93.9 | 94.9 | 88.6 | 59.7 | 45.7 | 38.3 | 33.8 | 22.4 | 15.7 |
| 1986 | 29.3 | 49.5 | 91.8 | 95.5 | 89.6 | 61.0 | 49.6 | 36.8 | 30.6 | 25.4 | 16.4 |
| 1987 | 28.6 | 47.9 | 91.3 | 95.4 | 88.1 | 62.2 | 48.8 | 42.3 | 34.9 | 23.2 | 17.2 |
| 1988 | 27.6 | 49.2 | 92.6 | 94.6 | 88.8 | 62.8 | 47.8 | 42.1 | 36.0 | 25.4 | 17.1 |
| 1989 | 27.1 | 51.2 | 91.8 | 96.0 | 89.6 | 61.6 | 50.6 | 39.0 | 38.0 | 27.9 | 18.5 |
| 1990 | 32.6 | 56.1 | 93.2 | 95.6 | 89.5 | 64.4 | 50.6 | 42.9 | 36.4 | 28.1 | 19.2 |
| 1991 | 28.2 | 53.0 | 91.4 | 96.5 | 90.0 | 65.5 | 54.0 | 43.6 | 40.5 | 28.2 | 20.9 |

NOTE: School includes nursery school but excludes day-care centers. School includes 2- and 4-year colleges and universities, but excludes schools with programs of strictly less than 2 years.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

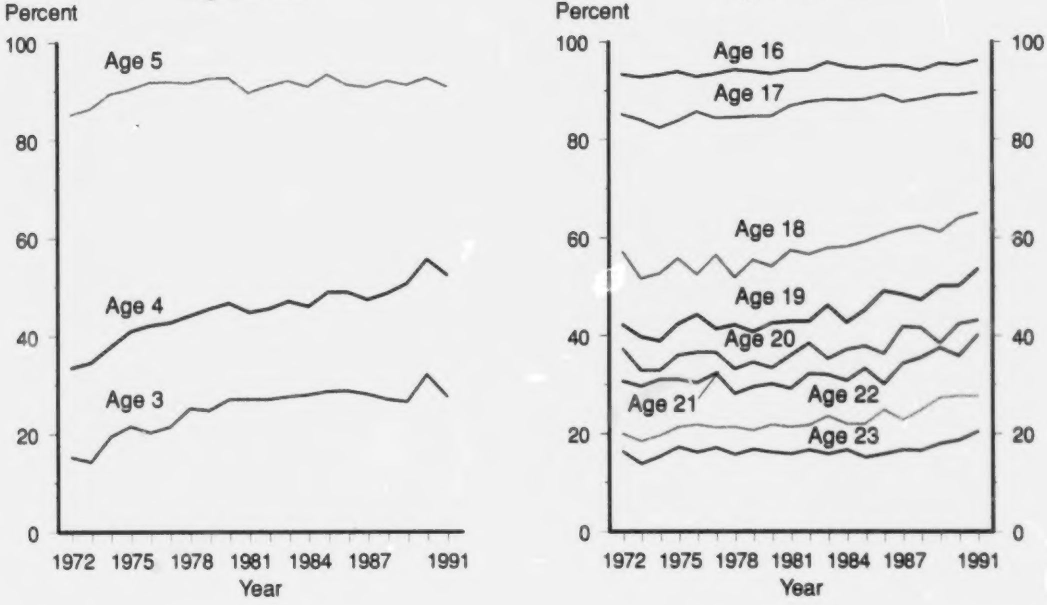
## Percentage of population enrolled in school, by age: October 1972–1991

By selected years



Ages 3 to 5

Ages 16 to 23



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Enrollment rates in preprimary education

- **In 1991, 34 percent of all 3- to 4-year-olds were enrolled in pre-K.**
- **In 1973, the enrollment rate in pre-K for children from low income families was about 20 percentage points lower than for those from high income families. By 1991, although the enrollment rates for both groups increased, the difference between children from high income families and those from low income families had widened.**
- **During the middle 1970s, white and black pre-K enrollment rates were similar. In the 1980s, however, white enrollment rates in pre-K continued to increase while those of blacks and Hispanics were generally stable. By 1990, average white enrollment rates in pre-K were nearly 10 percentage points higher than those of blacks and about 20 percentage points higher than those of Hispanics. However, black and Hispanic 3- to 4-year-olds were more likely to be enrolled in kindergarten than their white age-mates (supplemental table 2-1).**

*Within most groups in the population, an increasing percentage of children is receiving prekindergarten instruction. This expansion points to a greater readiness of children for elementary schooling. Many policymakers and educators believe it is important to help children from disadvantaged backgrounds start elementary school on an equal footing with other children by involving them and their parents in prekindergarten programs.*

**Percentage of 3- to 4-year-olds enrolled in prekindergarten, by race/ethnicity and family income: October 1973–1991**

| | Race/ethnicity[1] | | | | Family income[2] | | | |
|---|---|---|---|---|---|---|---|---|
| October | Total | White | Black | Hispanic | Total | Low | Middle | High |
| 1973 | 19.1 | 19.5 | 19.0 | 13.8 | 17.7 | 15.0 | 13.7 | 34.7 |
| 1974 | 21.3 | 21.6 | 21.1 | 15.6 | — | — | — | — |
| 1975 | 23.0 | 23.6 | 22.2 | 15.8 | 24.4 | 20.2 | 21.4 | 37.7 |
| 1976 | 24.1 | 24.7 | 23.9 | 15.4 | 22.9 | 15.1 | 19.5 | 42.4 |
| 1977 | 25.4 | 26.1 | 25.8 | 15.4 | 24.9 | 18.2 | 22.0 | 40.7 |
| 1978 | 27.3 | 27.9 | — | 16.2 | 28.4 | 21.9 | 24.9 | 47.1 |
| 1979 | 29.2 | 29.8 | — | 20.9 | 28.7 | 22.1 | 24.6 | 48.7 |
| 1980 | 29.7 | 30.7 | — | 20.6 | 30.4 | 22.6 | 26.9 | 50.0 |
| 1981 | 30.4 | 32.3 | 28.4 | 18.7 | 30.0 | 20.7 | 27.5 | 46.8 |
| 1982 | 30.6 | 32.8 | 28.7 | 15.7 | 30.8 | 21.7 | 27.6 | 50.6 |
| 1983 | 30.7 | 32.9 | 28.9 | 15.3 | 30.9 | 21.1 | 27.7 | 51.5 |
| 1984 | 31.2 | 33.6 | 28.7 | 17.4 | 30.4 | 16.1 | 28.1 | 54.0 |
| 1985 | 31.9 | 34.6 | 28.6 | 19.2 | 32.1 | 18.4 | 30.1 | 53.1 |
| 1986 | 32.4 | 35.5 | 27.4 | 20.3 | 33.1 | 19.9 | 30.1 | 55.8 |
| 1987 | 32.5 | 36.1 | 25.9 | 18.7 | 31.8 | 17.9 | 29.7 | 51.4 |
| 1988 | 33.0 | 36.8 | 26.7 | 18.0 | 32.5 | 20.5 | 28.6 | 53.7 |
| 1989 | 36.0 | 39.9 | 30.4 | 19.6 | 34.6 | 23.8 | 31.4 | 52.4 |
| 1990 | 36.5 | 40.3 | 31.4 | 21.0 | 40.8 | 30.8 | 36.9 | 61.3 |
| 1991 | — | — | — | — | 34.1 | 22.4 | 31.5 | 53.2 |

— Not available.

[1] Due to small sample sizes for the Black and Hispanic categories, 3-year averages are calculated. The 3-year average for 1990 is the average percentage enrolled in pre-K in 1989, 1990, and 1991.

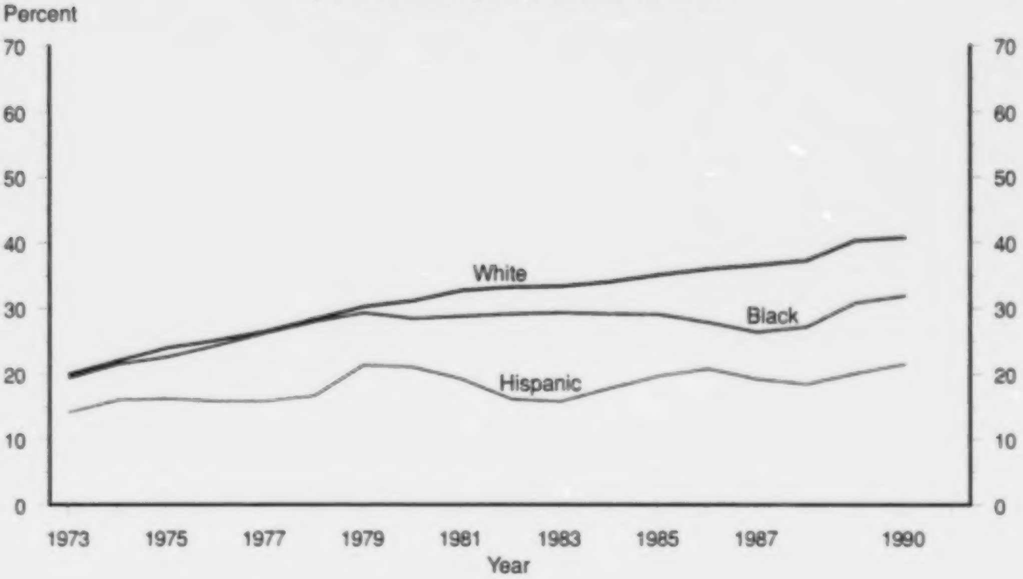
[2] Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of incomes between low and high income.

NOTE: Total enrollment rates for 3- and 4-year-olds are higher than those presented here because some 3- to 4-year-olds are enrolled in kindergarten.

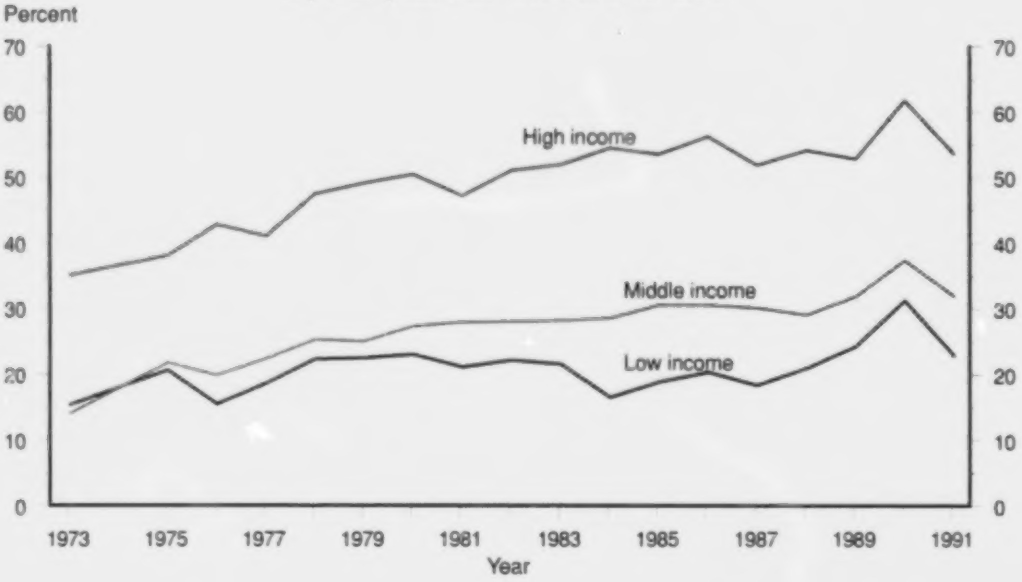
SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Percentage of children 3 to 4 years old enrolled in prekindergarten

By race/ethnicity: October 1973–1990



By family income: October 1973–1991



NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between low and high incomes.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Age of first graders

- **In October 1991, one in five first graders was age 7 or older, compared to one in eight in 1972.**
- **Generally a higher percentage of boys than girls in first grade are 7 or older.**
- **In 1991, similar percentages of white, black, and Hispanic first graders were 7 or older. However, this percentage doubled between 1972 and 1991 for white first graders (11 to 22 percent).**
- **First grade students from low income families were more likely to be age 7 or older than were first grade students from high income families.**

*Children are 7 or older in first grade for a variety of reasons: because they did not meet kindergarten exit requirements, their sixth birthday occurred after state-mandated cut-off dates, they were retained in first grade, or they were ill. Changes over time could point to differences in the occurrence of these factors for various groups.*

**Percentage of first grade students who are 7-years-old or older, by family income, sex, and race/ethnicity: 1972–1991**

| | | Family income* | | | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|---|---|---|
| October | Total | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 12.7 | 21.7 | 12.3 | 8.8 | 14.3 | 11.0 | 11.0 | 17.3 | 20.0 |
| 1973 | 12.9 | 20.9 | 12.8 | 9.2 | 14.6 | 11.1 | 12.0 | 14.7 | 20.7 |
| 1974 | 11.3 | — | — | — | 12.8 | 9.7 | 10.8 | 12.7 | 14.8 |
| 1975 | 12.3 | 21.4 | 11.8 | 8.9 | 14.1 | 10.5 | 11.3 | 14.8 | 17.6 |
| 1976 | 11.0 | 18.7 | 10.4 | 8.1 | 13.2 | 8.7 | 10.0 | 12.8 | 17.2 |
| 1977 | 12.2 | 16.9 | 12.1 | 9.6 | 15.1 | 9.2 | 12.0 | 13.5 | 12.3 |
| 1978 | 14.5 | 19.4 | 15.4 | 8.3 | 17.5 | 11.2 | 13.6 | 16.1 | 20.4 |
| 1979 | 14.8 | 19.1 | 16.0 | 7.7 | 17.0 | 12.2 | 14.7 | 14.6 | — |
| 1980 | 16.2 | 22.0 | 16.3 | 11.3 | 18.5 | 13.9 | 14.8 | 18.8 | 22.3 |
| 1981 | 15.6 | 22.9 | 15.0 | 11.3 | 18.8 | 12.0 | 15.5 | 17.0 | 15.7 |
| 1982 | 18.0 | 23.6 | 16.4 | 17.1 | 21.2 | 14.4 | 16.5 | 20.1 | 25.0 |
| 1983 | 16.3 | 22.0 | 16.1 | 11.7 | 17.5 | 15.0 | 14.9 | 17.6 | 23.8 |
| 1984 | 18.7 | 22.2 | 20.4 | 10.4 | 21.1 | 16.1 | 17.2 | 23.0 | 24.2 |
| 1985 | 19.0 | 23.8 | 17.8 | 18.2 | 22.0 | 15.8 | 18.5 | 20.3 | 21.4 |
| 1986 | 20.7 | 26.1 | 20.9 | 14.8 | 24.7 | 16.3 | 21.0 | 22.6 | 19.6 |
| 1987 | 21.2 | 30.6 | 19.5 | 17.3 | 23.9 | 18.3 | 21.5 | 20.6 | 20.5 |
| 1988 | 21.3 | 23.9 | 21.4 | 18.3 | 24.3 | 18.0 | 22.1 | 18.1 | 22.9 |
| 1989 | 22.3 | 25.8 | 21.9 | 20.8 | 26.1 | 18.3 | 23.8 | 19.3 | 21.3 |
| 1990 | 23.3 | 27.1 | 23.7 | 18.8 | 26.2 | 20.2 | 24.0 | 21.5 | 22.1 |
| 1991 | 21.2 | 27.1 | 20.3 | 18.4 | 23.9 | 18.3 | 21.6 | 22.3 | 17.8 |

— Not available.

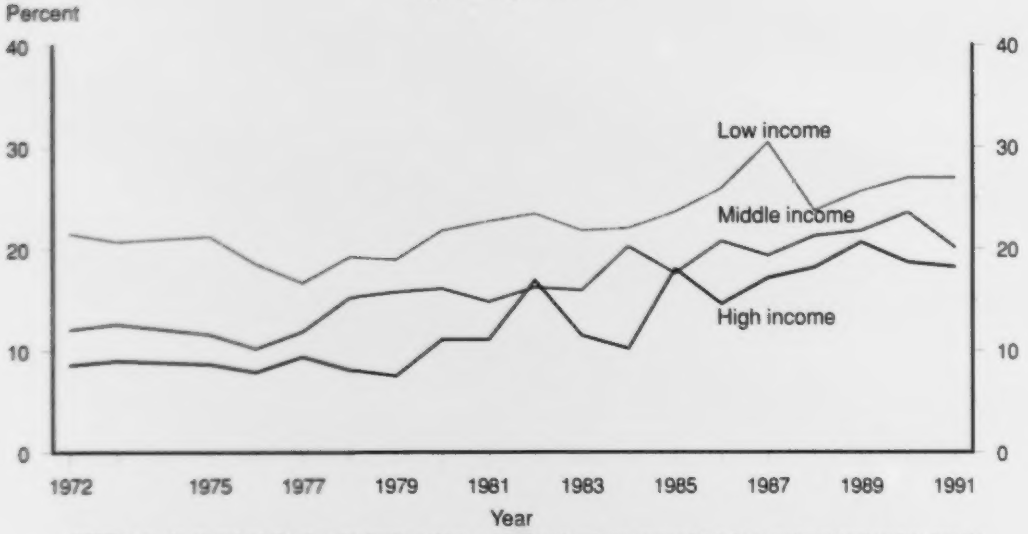
* Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of incomes between high and low income.

NOTE: The percentage of first graders who are 7 or older in October can be affected by changes in the minimum age of starting school set by states and school districts. For example, between 1984 and 1991, seven states (with about 8.3 percent of elementary school enrollment) increased the minimum age for starting school by an average of 2 months which could account for about a 1.3 percentage point increase in the percentage of first grade students who are age 7 or older.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

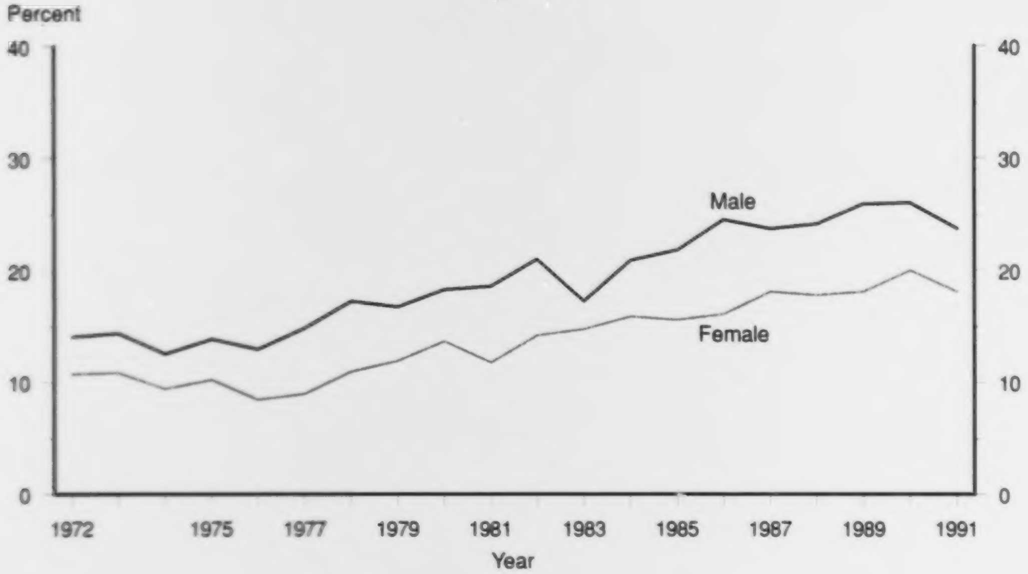
## Percentage of first grade students who are at least 7 years old: 1972–1991

### By family income



NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low incomes.

### By sex



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Persistence in school

- **Between 1990 and 1991, 96 percent of 15- to 24-year-olds in grades 10-12 stayed in school or completed high school. The other side of this statement is that 4 percent dropped out before completion (although some of these dropouts may have re-enrolled during a subsequent school year).**
- **The high school persistence rate for students from high income families is about 10 percent higher than the rate for students from low income families. The difference in rates between students from high and middle income families is small, about 3 percent (see supplemental table 5-2).**
- **In October 1991, 84 percent of college students who had been enrolled in their first, second, or third year of college the previous October were still enrolled.**
- **Persistence rates among college students at each level increased between 1972 and 1991 (supplemental table 5-4).**

*A measure of persistent attendance is the proportion of students enrolled in 2 consecutive years. Students who do not complete high school face a decreased opportunity for assuming a successful and fully functional place in the American workplace and society at large. Persistent attendance is strongly associated with completing high school. In college, both persistent attendance and full-time attendance are strongly associated with completion of a 4-year degree. Those who attend part-time or stop out (i.e., have periods of nonattendance) are less likely to complete a degree.*

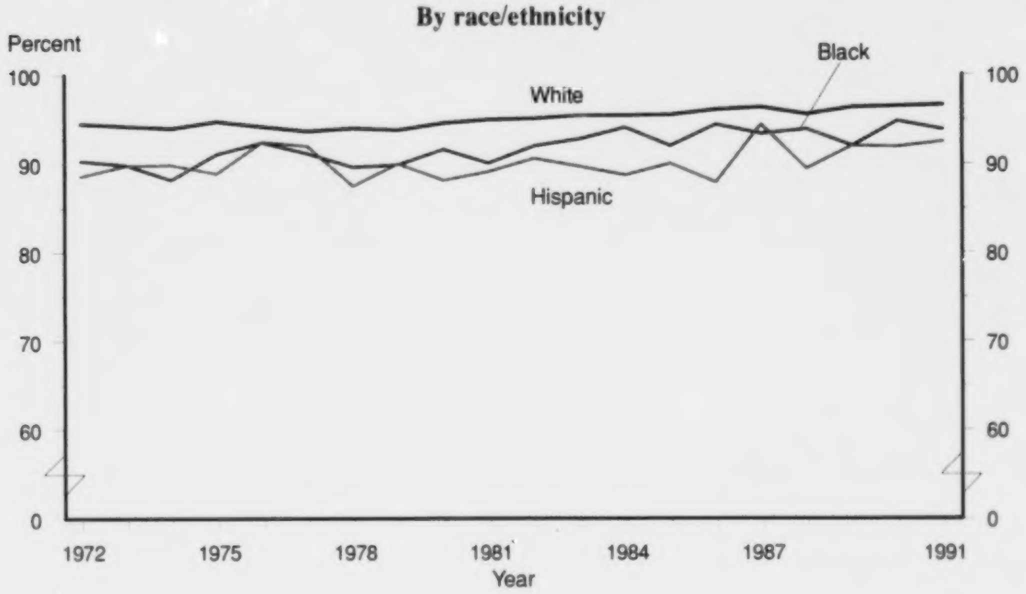
**Percentage of high school and college students enrolled the previous October who are enrolled again the following October: 1972–1991**

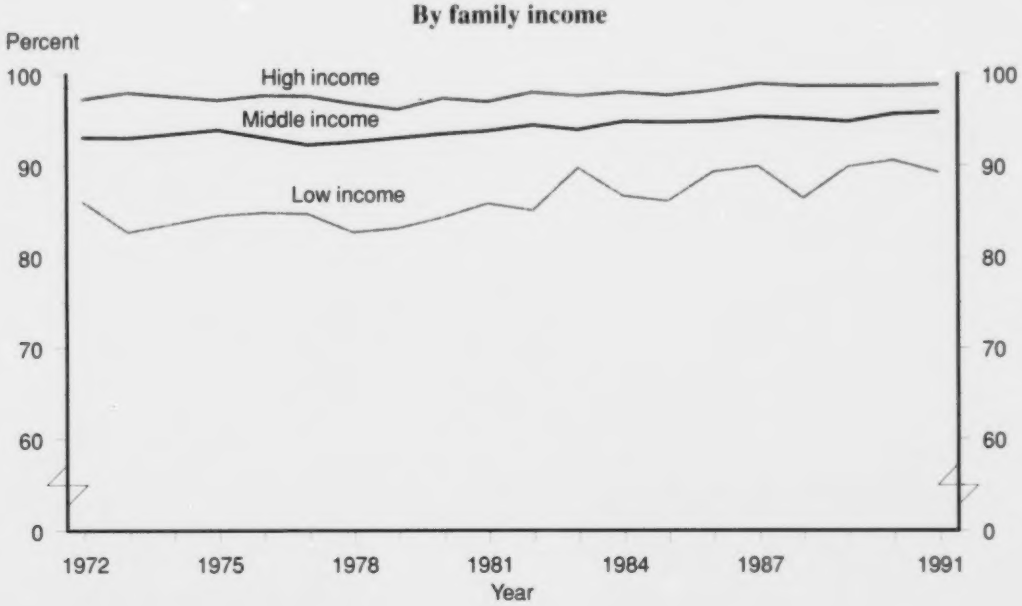
| | High school students, grades 10–12, ages 15–24 | | | | College students, 1st–3rd years, ages 16–24 | | | |
|---|---|---|---|---|---|---|---|---|
| October | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1972 | 93.9 | 94.7 | 90.5 | 88.8 | 77.7 | 78.1 | 71.3 | 78.1 |
| 1973 | 93.7 | 94.5 | 90.1 | 90.0 | 76.7 | 76.8 | 77.2 | 73.8 |
| 1974 | 93.3 | 94.2 | 88.4 | 90.1 | 77.5 | 77.4 | 74.3 | 76.0 |
| 1975 | 94.2 | 95.0 | 91.3 | 89.1 | 79.3 | 79.9 | 77.0 | 72.8 |
| 1976 | 94.1 | 94.4 | 92.6 | 92.7 | 79.2 | 79.3 | 81.3 | 74.9 |
| 1977 | 93.5 | 93.9 | 91.4 | 92.2 | 79.2 | 79.3 | 79.1 | 75.9 |
| 1978 | 93.3 | 94.2 | 89.8 | 87.7 | 77.7 | 77.8 | 75.3 | 76.7 |
| 1979 | 93.3 | 94.0 | 90.1 | 90.2 | 77.8 | 78.4 | 73.6 | 72.4 |
| 1980 | 93.9 | 94.8 | 91.8 | 88.3 | 79.0 | 80.2 | 71.0 | 69.2 |
| 1981 | 94.1 | 95.2 | 90.3 | 89.3 | 78.0 | 79.4 | 72.3 | 72.5 |
| 1982 | 94.5 | 95.3 | 92.2 | 90.8 | 80.4 | 81.2 | 74.6 | 77.4 |
| 1983 | 94.8 | 95.6 | 93.0 | 89.9 | 80.3 | 81.1 | 74.8 | 74.4 |
| 1984 | 94.9 | 95.6 | 94.3 | 88.9 | 79.1 | 79.8 | 74.2 | 72.8 |
| 1985 | 94.8 | 95.7 | 92.2 | 90.2 | 79.7 | 81.0 | 71.4 | 67.7 |
| 1986 | 95.3 | 96.3 | 94.6 | 88.1 | 80.2 | 80.5 | 74.4 | 81.7 |
| 1987 | 95.9 | 96.5 | 93.6 | 94.6 | 81.3 | 82.9 | 69.6 | 74.9 |
| 1988 | 95.2 | 95.8 | 94.1 | 89.6 | 83.0 | 83.7 | 78.0 | 77.0 |
| 1989 | 95.5 | 96.5 | 92.2 | 92.2 | 83.8 | 84.3 | 79.0 | 81.1 |
| 1990 | 96.0 | 96.7 | 95.0 | 92.1 | 81.8 | 81.7 | 79.4 | 79.7 |
| 1991 | 96.0 | 96.8 | 94.0 | 92.7 | 84.1 | 84.4 | 77.8 | 80.8 |

NOTE: High school students were either enrolled again the following October or had graduated. See supplemental note to *Indicator 4* for details on how the persistence rates in this table are calculated. Not shown separately but included in the total are non-Hispanics who are neither black nor white. Data for 1987 through 1991 reflect new editing procedures instituted by the Bureau of the Census for cases involving missing school enrollment items.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Percentage of high school students in grades 10–12 and from ages 15–24 enrolled in the previous October and again the following October*: 1972–1991





* Or who had completed high school

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low incomes.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Immediate transition from high school to college

- **Sixty three percent of 1991 high school graduates were enrolled in college in October 1991—25 percent in 2-year colleges and 38 percent in 4-year colleges.**

- **Between 1973 and 1991, the percentage of high school graduates going directly to college increased from 47 percent to 63 percent. Almost two-thirds of this increase was due to the increase in the number of graduates going directly to 2-year colleges.**

- **The percentage of black high school graduates going directly to college rose 8 percentage points between 1974 and 1990. During the same period, the enrollment rate for whites rose 14 percentage points. In 1990, blacks and Hispanics were about equally likely to go directly to college (about 50 percent) and both were less likely than whites (63 percent) to do so.**

- **Since 1985, the college enrollment rate for females has risen by 10 percentage points while that for males has changed very little. By 1991 female high school graduates were 9 percentage points more likely than their male counterparts to go directly to college.**

*Most college students enroll immediately after finishing high school. So the percentage of high school graduates enrolled in college in the October following graduation is a leading indicator of the total proportion who will eventually enroll. The percentage enrolling is a measure of the accessibility of higher education to high school graduates.*

**Percentage of high school graduates who were enrolled in college the October following graduation, by type of college, sex, and race/ethnicity: 1973–1991**

| | Type of college | | | Sex | | Race/ethnicity[1] | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Total | 2-year | 4-year | Male | Female | White | Black | Hispanic | Other[2] |
| 1973 | 46.6 | 14.9 | 31.7 | 50.0 | 43.4 | — | — | — | — |
| 1974 | 47.6 | 15.2 | 32.4 | 49.4 | 45.9 | 48.7 | 40.5 | 53.1 | 69.3 |
| 1975 | 50.7 | 18.2 | 32.6 | 52.6 | 49.0 | 49.1 | 44.5 | 52.7 | 67.7 |
| 1976 | 48.8 | 15.6 | 33.3 | 47.2 | 50.3 | 50.3 | 45.3 | 53.6 | 57.3 |
| 1977 | 50.6 | 17.5 | 33.1 | 52.1 | 49.3 | 50.1 | 46.8 | 48.8 | 61.1 |
| 1978 | 50.1 | 17.0 | 33.1 | 51.1 | 49.3 | 50.4 | 47.5 | 46.1 | 56.4 |
| 1979 | 49.3 | 17.5 | 31.8 | 50.4 | 48.4 | 50.1 | 45.2 | 46.3 | 60.5 |
| 1980 | 49.3 | 19.4 | 29.9 | 46.7 | 51.8 | 51.5 | 44.0 | 49.6 | 64.3 |
| 1981 | 53.9 | 20.5 | 33.5 | 54.8 | 53.1 | 52.4 | 40.3 | 48.7 | 72.7 |
| 1982 | 50.6 | 19.1 | 31.5 | 49.1 | 52.0 | 54.2 | 38.8 | 49.4 | 69.0 |
| 1983 | 52.7 | 19.2 | 33.5 | 51.9 | 53.4 | 55.5 | 38.0 | 46.7 | 60.9 |
| 1984 | 55.2 | 19.4 | 35.8 | 56.0 | 54.5 | 57.9 | 39.9 | 49.3 | 60.1 |
| 1985 | 57.7 | 19.6 | 38.1 | 58.6 | 56.8 | 58.6 | 39.5 | 46.1 | 66.2 |
| 1986 | 53.8 | 19.3 | 34.5 | 55.8 | 51.9 | 58.5 | 43.5 | 42.3 | 72.5 |
| 1987 | 56.8 | 18.9 | 37.9 | 58.3 | 55.3 | 58.8 | 44.2 | 45.0 | 73.4 |
| 1988 | 58.9 | 21.9 | 37.1 | 57.1 | 60.7 | 60.1 | 49.7 | 48.5 | 73.9 |
| 1989 | 59.6 | 20.7 | 38.9 | 57.6 | 61.6 | 61.6 | 48.0 | 52.7 | 72.6 |
| 1990 | 60.1 | 20.1 | 40.0 | 58.0 | 62.2 | 63.0 | 48.9 | 52.5 | 72.6 |
| 1991 | 62.5 | 24.9 | 37.7 | 57.9 | 67.1 | — | — | — | — |

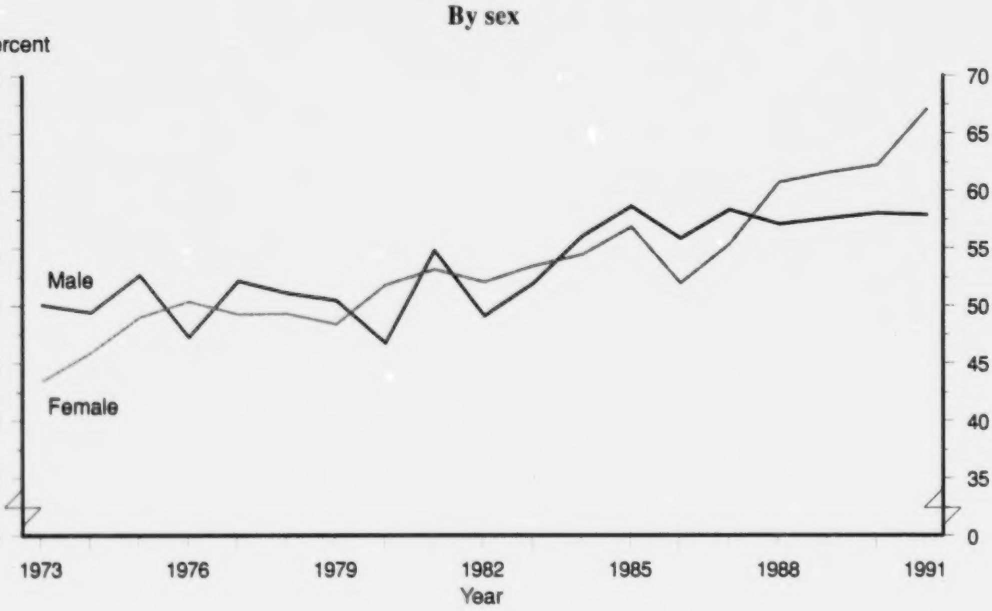
— Not available.

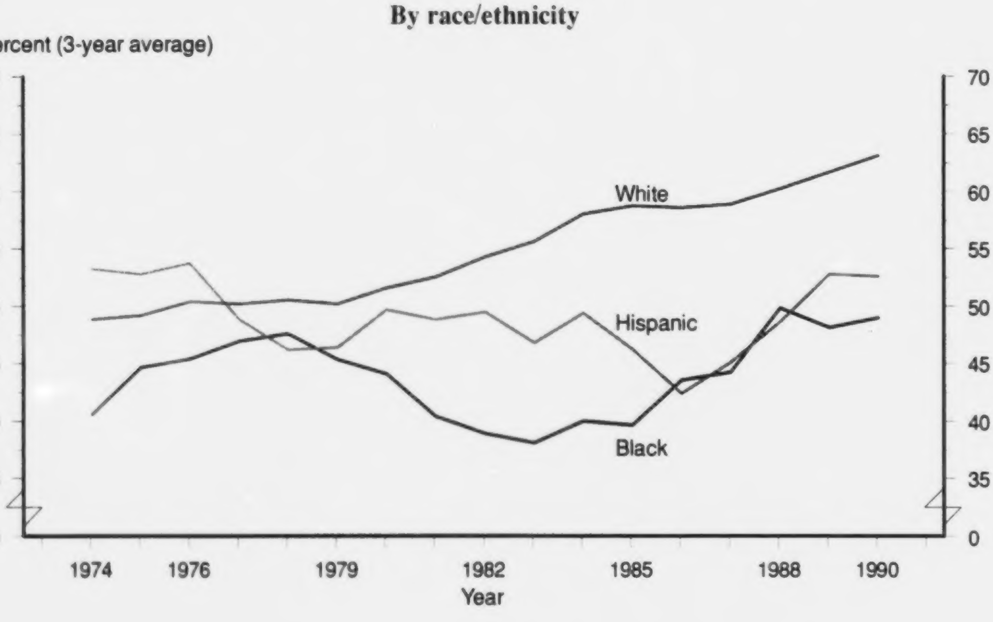
[1] Due to small sample sizes for the Black, Hispanic, and Other categories, 3-year averages are calculated. The 3-year average for 1990 is the average percentage enrolling in college in 1989, 1990, and 1991.

[2] Includes individuals who are not Hispanic, white, or black; most are Asian and some are American Indian.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Percentage of high school graduates enrolled in college in October following graduation: 1973–1991





SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Time to complete baccalaureate degree

- **About 31 percent of the college graduates in 1990 completed their baccalaureate degree within 4 years of graduating from high school, while 43 percent completed it within 4 years of entering college.**
- **In 1990, the percentage completing college within 4 years of starting was larger for females than males, for students at private colleges than those at public colleges, and for whites than blacks, Hispanics or American Indians.**
- **Between 1977 and 1990, the percentage completing college within 4 years of graduating from high school declined, while the percentage taking more than 6 years to graduate increased during that time.**

*A majority of those planning to enroll in college do so immediately after graduating from high school and most baccalaureate programs can be completed within 4 years of entering. Taking longer to graduate may result from delaying entrance, changing schools or majors, stopping out, or taking reduced course loads for financial, academic, or social reasons. Such delays can be costly both to the institution and the individual.*

**Percentage of college graduates completing the baccalaureate degree within various years of graduating from high school, by sex: Year of college graduation 1977, 1986, and 1990**

| | Total | | | | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of college graduation | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
| 1977 | 45.4 | 67.2 | 75.3 | 24.7 | 39.2 | 61.8 | 71.1 | 28.9 | 52.8 | 73.8 | 80.5 | 19.5 |
| 1986 | 34.5 | 60.2 | 70.8 | 29.2 | 30.8 | 57.4 | 69.8 | 30.2 | 38.2 | 62.9 | 71.8 | 28.2 |
| 1990 | 31.1 | 57.2 | 68.4 | 31.6 | 26.6 | 54.3 | 67.6 | 32.4 | 35.1 | 59.8 | 69.1 | 30.9 |

**Percentage of college graduates completing the baccalaureate degree within various years of starting college, by sex, control of institution, and race/ethnicity: Year of college graduation 1990**

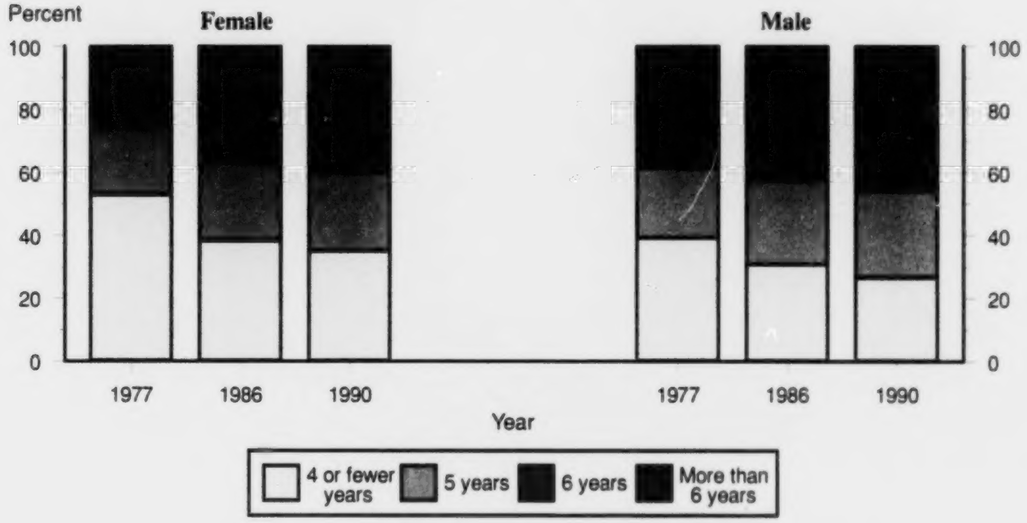
| Characteristic | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
|---|---|---|---|---|
| Total | 43.3 | 70.8 | 81.0 | 19.0 |
| Sex | | | | |
| Male | 38.9 | 68.9 | 80.9 | 19.1 |
| Female | 47.4 | 72.5 | 81.1 | 18.9 |
| Control of institution | | | | |
| Public | 36.1 | 67.2 | 79.3 | 20.7 |
| Private | 57.9 | 78.1 | 84.5 | 15.5 |
| Race/ethnicity | | | | |
| White | 44.4 | 71.6 | 81.5 | 18.5 |
| Black | 37.0 | 65.1 | 77.6 | 22.4 |
| Hispanic | 31.1 | 60.3 | 72.9 | 27.1 |
| Asian | 44.4 | 76.1 | 85.7 | 14.3 |
| American Indian | 26.6 | 47.7 | 59.0 | 41.0 |

NOTE: Revised from previously published data. For the calculation of elapsed times, the actual month of the award of the baccalaureate degree was used. The month of high school graduation was assumed to be June. The month of starting college was assumed to be September.

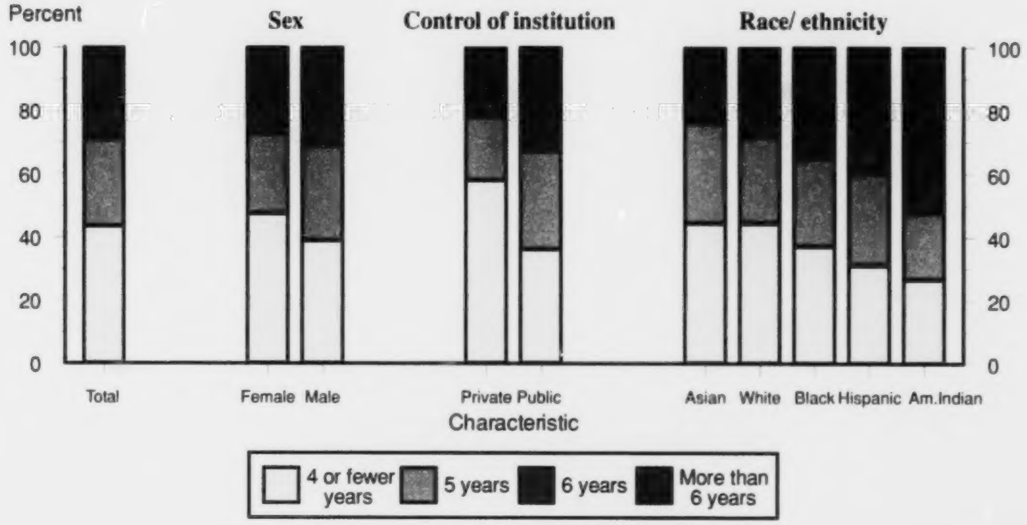
SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Time to complete baccalaureate degree

**Percentage of college graduates completing the baccalaureate degree within various years of graduating from high school: Year of college graduation 1977, 1986, and 1990**



**Percentage of college graduates completing the baccalaureate degree within various years of starting college: Year of college graduation 1990**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Continuation to graduate school

- **The proportion of bachelor's degree recipients continuing immediately to graduate school dropped between 1977 and 1986. There has been little change since then.**
- **Among 1990 graduates, a slightly larger percentage of men than women continued to graduate school. However, between 1977 and 1990 the gap between the percentage of men and women who continue to graduate school narrowed substantially (supplemental table 7-1).**
- **The rate of immediate continuation to graduate school varies by field of undergraduate major. Natural science majors are much more likely than other majors to go on to graduate school. Humanities and social science majors are the next most likely to continue their education.**

*Graduate education is where the most advanced levels of knowledge are acquired. Scientific advances depend in large part on a continuing supply of highly educated young scientists. The renewal of faculty in colleges and universities depends on new generations of Ph.Ds and other advanced degree recipients. Law, medicine, and business are some other fields that depend on students pursuing graduate education. In most fields, the percentage of baccalaureate recipients immediately enrolling in graduate school, as opposed to taking full-time jobs, is a measure of the future supply of advanced talent in those fields.*

**Percentage of bachelor's degree recipients enrolled in school or employed full-time one year after graduation, by field of major: Selected years of graduation 1977–1990**

| Field of major | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| | | | **Percent enrolled in school**[1] | | |
| All fields | 17.3 | 15.8 | 14.8 | 11.4 | 12.2 |
| Humanities and social/behavioral sciences | 24.9 | 25.0 | 24.3 | 20.2 | 19.4 |
| Humanities | 21.4 | 23.4 | 21.8 | 19.2 | 17.0 |
| Social/behavioral sciences | 27.0 | 26.2 | 26.1 | 21.0 | 20.9 |
| Natural sciences | 38.8 | 36.4 | 38.1 | 32.4 | 35.0 |
| Computer science and engineering | 12.5 | 7.8 | 8.8 | 6.3 | 7.0 |
| Education | 7.2 | 9.4 | 9.6 | 5.8 | 5.7 |
| Business | 7.5 | 8.2 | 5.5 | 3.8 | 4.9 |
| Other technical/professional[3] | 11.1 | 9.8 | 10.2 | 8.3 | 8.5 |
| | | | **Percent employed full-time**[2] | | |
| All fields | 68.0 | 71.2 | 72.7 | 73.7 | 73.5 |
| Humanities and social/behavioral sciences | 55.6 | 57.9 | 60.0 | 60.3 | 62.3 |
| Humanities | 56.5 | 55.2 | 59.5 | 58.8 | 59.9 |
| Social/behavioral sciences | 55.0 | 59.8 | 60.3 | 61.5 | 63.9 |
| Natural sciences | 50.0 | 52.3 | 51.6 | 52.5 | 53.5 |
| Computer science and engineering | 81.6 | 85.8 | 85.6 | 83.5 | 85.5 |
| Education | 74.4 | 72.9 | 73.2 | 75.0 | 76.8 |
| Business | 83.2 | 83.6 | 85.0 | 84.9 | 82.9 |
| Other technical/professional[3] | 75.0 | 77.2 | 74.8 | 75.0 | 77.5 |

[1] Enrolled in school and not employed full-time.

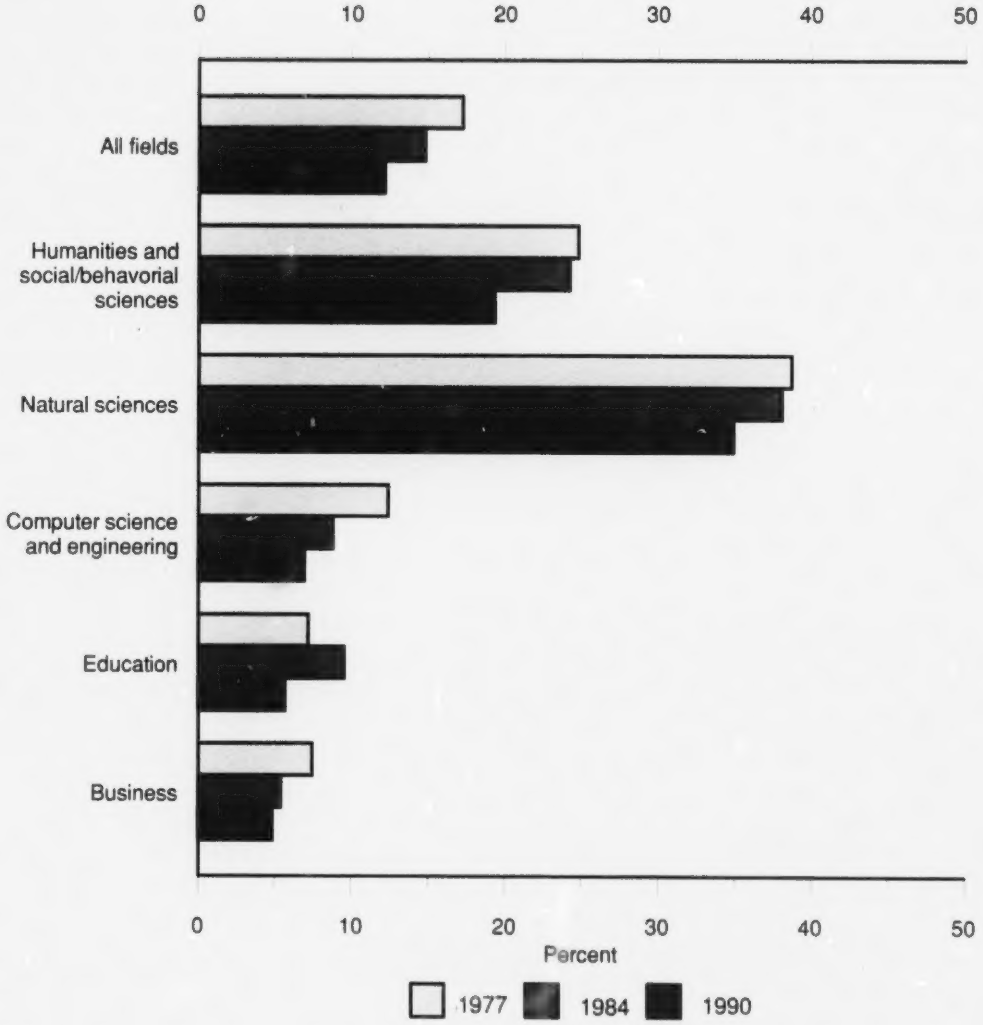
[2] May include some who were enrolled in school.

[3] See supplemental table 7-1 for definition.

NOTE: "Enrolled in school" refers to enrollment in any type of school. Of the 1990 bachelor's degree recipients enrolled in school and not working full-time one year after graduation, 87 percent were working toward a master's, doctor's, or first-professional degree. Supplemental table 7-2 shows the type of educational program attended, by field of major. Because of variations in survey design, it is not possible to distinguish graduate and non-graduate degree programs for all survey years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Percentage of bachelor's degree recipients enrolled in school and not working full-time one year after graduation



NOTE: Enrolled in school refers to enrollment in any type of school. Of the 1990 bachelor's degree recipients enrolled in school and not working full-time one year after graduation, 87 percent were working toward a master's, doctor's, or first-professional degree.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Participation in adult education

- **Almost one in three adults participated in adult education in 1990–91. However, those with more education were more likely to participate than those with less education. While over half of bachelor's degree recipients participated, fewer than one in four high school graduates did so.**
- **Job and career training, whether for the current or a future job, was the primary motivation for taking adult education courses. Two of every three participants took courses for this reason.**
- **Employed people were more likely to participate in adult education than those without jobs. Participation rates of employed females were about the same as those of their male counterparts (supplemental table 8-1).**

*In an age of rapid technological and economic change, lifelong learning is essential, both for individuals and for society as a whole. Adult education provides a vehicle for the acquisition of new knowledge and the upgrading of worker skills. Differences between groups in participation rates are an indication of differences in lifelong learning behavior.*

- **Participation in adult education varies by age. Those 35 to 44 years old participated the most, whereas those 65 years old or older participated the least (supplemental table 8-1).**

### Adult education participation rates, by main reason for participation, educational attainment, and employment status: 1990–91

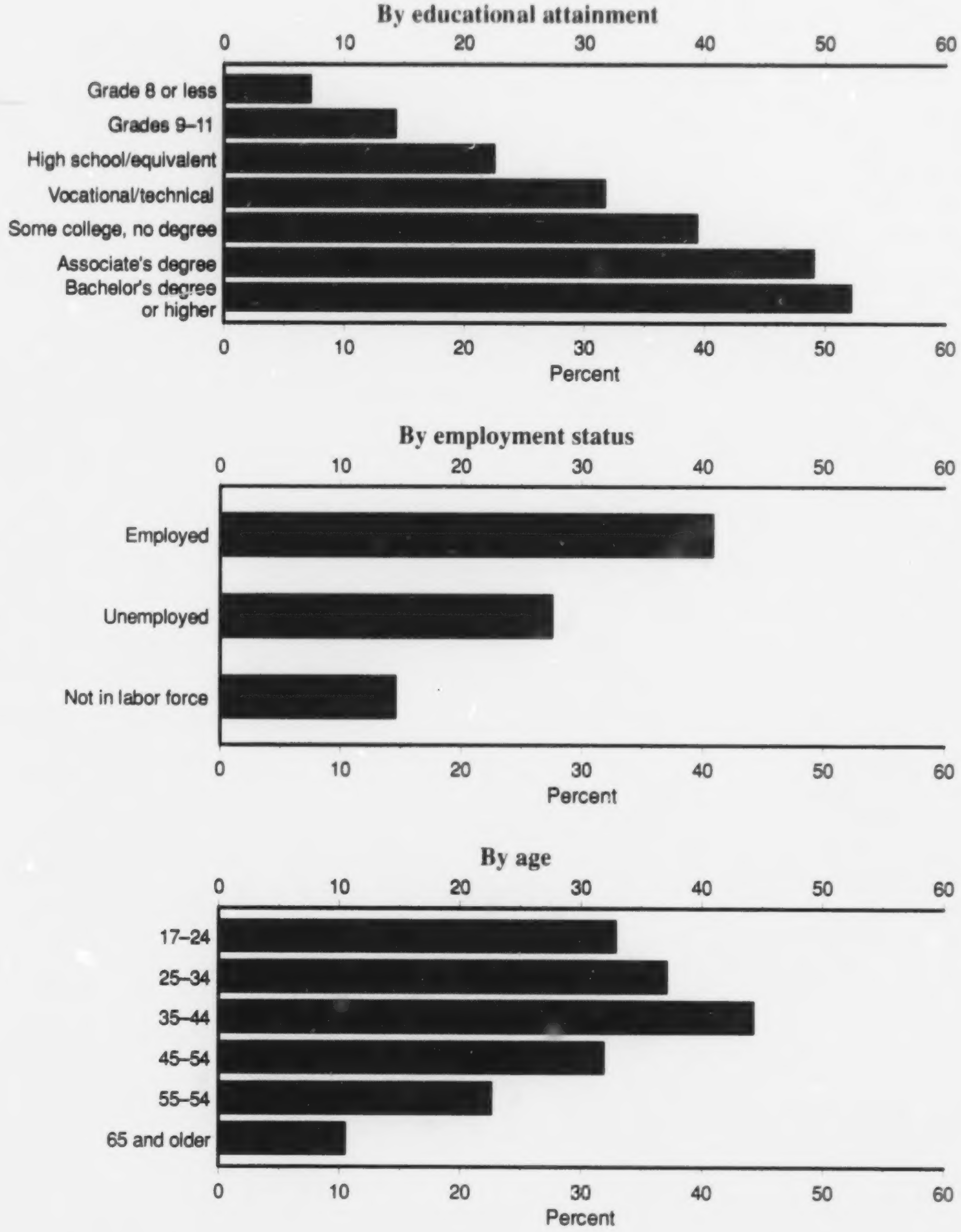
| | | Main reason for participation in adult education* | | | |
|---|---|---|---|---|---|
| Characteristic | Total | Job related | Basic skills | Degree | Personal |
| Total | 31.6 | 21.4 | 0.4 | 4.1 | 9.6 |
| Educational attainment | | | | | |
| Grade 8 or less | 7.2 | 1.5 | 0.5 | 1.0 | 4.0 |
| Grades 9–11 | 14.3 | 7.9 | 0.5 | 2.2 | 4.3 |
| High school diploma or equivalent | 22.5 | 14.9 | 0.4 | 2.1 | 7.0 |
| Vocational/technical after high school | 31.7 | 23.2 | 0.1 | 3.1 | 9.0 |
| Some college, no degree | 39.4 | 24.4 | 0.5 | 7.7 | 13.0 |
| Associate's degree | 49.1 | 38.2 | 0.4 | 7.4 | 10.8 |
| Bachelor's degree or higher | 52.2 | 39.2 | 0.1 | 5.9 | 14.8 |
| Employment status | | | | | |
| Employed | 40.8 | 30.9 | 0.4 | 5.3 | 10.0 |
| Unemployed | 27.5 | 11.8 | 0.4 | 5.4 | 5.9 |
| Not in the labor force | 14.5 | 3.7 | 0.4 | 1.5 | 9.2 |

*"Main reason for participation" was determined from four of the courses taken over a 12-month period. Percentages by "Main reason" add to more than the "Total" because individuals taking different courses for different reasons are included in more than one category. About 14 percent of the participants took more than four courses.

NOTE: Adult education is defined in this indicator as part-time participation in any type of educational course by those 17 years of age and older, excluding those enrolled full-time in elementary or secondary schools at the time of the survey. See supplemental table 8-1 for more detail o the types of programs and courses included.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

## Adult education participation rates, by educational attainment, employment status, and age: 1990–91



NOTE: Adult education is defined in this indicator as part-time participation in any type of educational course or program by those 17 years of age and older, excluding those enrolled full-time in elementary or secondary schools at the time of the survey.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

## College costs and family income

- **College tuition and room and board (in constant dollars) fell after 1972, reaching a low point for the 1980-81 academic year; since then, college costs have risen rapidly in both public and private institutions (supplemental table 9-2).**
- **At private colleges, tuition and room and board increased more rapidly than at public colleges—55 percent versus 32 percent between 1980 and 1991. Median family income (in families with children 6 to 17 years old) has not kept pace; it fell 2 percent over the same period. The income of families at the 25th percentile fell 8 percent over the period, while income of families at the 75th percentile grew 2 percent.**

*A family's ability to afford college for its children depends on many factors, including tuition levels, availability of financial aid, family income, and family size. Tuition, room, and board are a measure of the gross price of college. Deducting financial aid amounts produces the net price. The average cost for tuition, room, and board as a percentage of family income is an indicator of the affordability of a college education.*

- **At public institutions, tuition and room and board increased from 10 percent of median family income in 1980 to 14 percent in 1991. For those at the 25th percentile of family income, public college costs increased from 17 percent of their income in 1980 to 25 percent in 1991; at the 75th percentile, the figures were 7 and 9 percent in 1980 and 1991, respectively (supplemental table 9-1).**

### Average tuition, room, and board and selected percentiles of family income for families with children 6–17 years old: 1975–1991

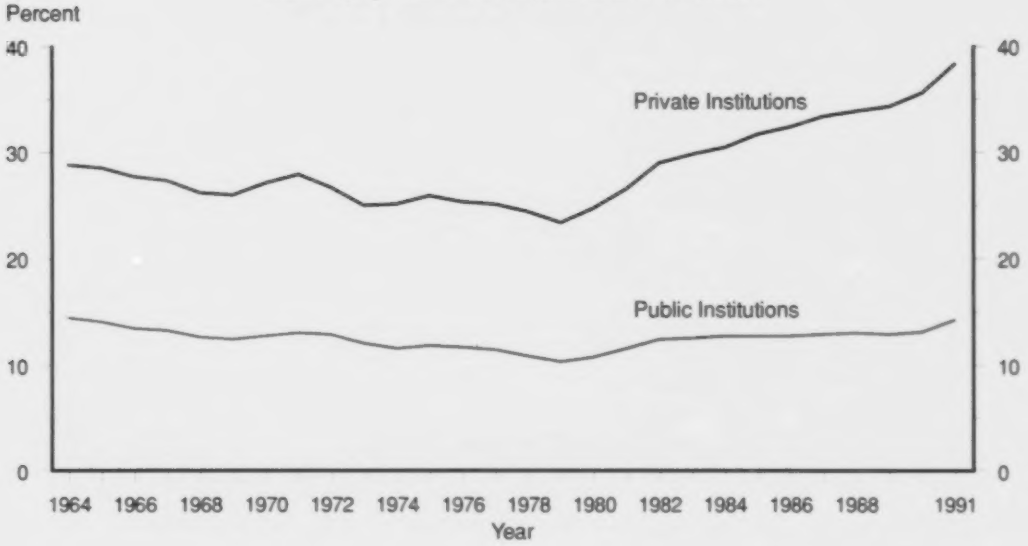
| | Undergraduate tuition (in-state), room, and board | | Percentiles of family income distribution among families with children 6–17 years old* | | | | |
|---|---|---|---|---|---|---|---|
| Year | Public | Private | 10th | 25th | 50th | 75th | 90th |
| | | | (Constant 1992 dollars) | | | | |
| 1975 | $4,343 | $9,549 | $13,544 | $25,694 | $41,215 | $58,064 | $78,596 |
| 1976 | 4,411 | 9,630 | 13,850 | 26,259 | 42,845 | 59,891 | 80,908 |
| 1977 | 4,370 | 9,625 | 13,749 | 26,021 | 43,047 | 60,565 | 81,362 |
| 1978 | 4,289 | 9,708 | 13,523 | 26,250 | 43,441 | 60,109 | 82,010 |
| 1979 | 4,185 | 9,496 | 13,950 | 25,874 | 42,937 | 61,633 | 84,593 |
| 1980 | 4,040 | 9,313 | 11,882 | 23,592 | 40,157 | 58,616 | 80,051 |
| 1981 | 4,109 | 9,514 | 11,447 | 22,418 | 39,021 | 56,924 | 77,720 |
| 1982 | 4,282 | 10,061 | 10,147 | 21,603 | 38,130 | 56,551 | 78,258 |
| 1983 | 4,446 | 10,576 | 10,257 | 21,371 | 37,947 | 57,755 | 79,892 |
| 1984 | 4,603 | 11,077 | 10,342 | 22,087 | 38,660 | 58,891 | 82,181 |
| 1985 | 4,658 | 11,589 | 10,674 | 22,664 | 40,110 | 59,853 | 83,075 |
| 1986 | 4,870 | 12,385 | 10,346 | 22,539 | 40,438 | 61,620 | 85,883 |
| 1987 | 5,001 | 12,980 | 10,283 | 22,644 | 41,403 | 63,003 | 87,449 |
| 1988 | 5,071 | 13,274 | 10,837 | 23,033 | 41,355 | 63,010 | 87,453 |
| 1989 | 5,097 | 13,601 | 11,423 | 23,270 | 41,359 | 62,613 | 88,720 |
| 1990 | 5,108 | 13,863 | 10,764 | 22,473 | 39,602 | 60,927 | 86,796 |
| 1991 | 5,337 | 14,404 | 9,966 | 21,793 | 39,411 | 59,944 | 84,166 |

* These families may have children 18 or over; however, there is at least one child between 6 and 17 years old and none under 6. All families, not just married-couple families, are included.

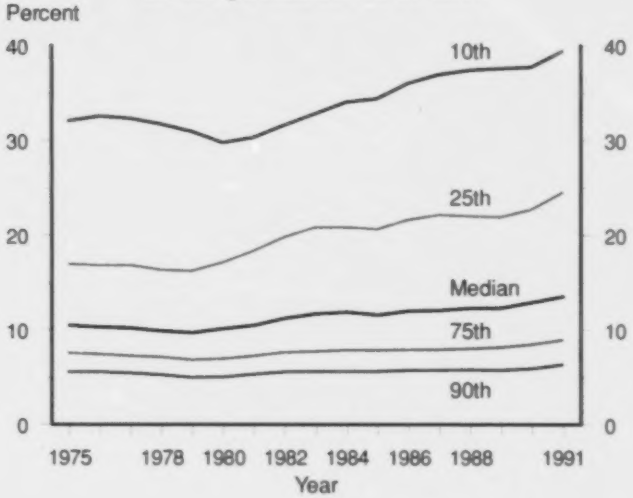
NOTE: Tuition data are for academic years beginning 1975–1991 and family income data are for calendar years 1975–1991. The calendar year Consumer Price Index was used to calculate constant dollar figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS Institutional Characteristics Survey.
U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Money Income of Families and Persons: March . . .," various years.

# Undergraduate tuition, room, and board as a percentage of family income



As a percentage of median income of all families, by control of institution: 1964–1991



For public institutions, as a percentage of income of families with children 6 to 17 years old at selected income percentiles: 1975–1991

NOTE: Year denotes the beginning of the academic year for tuition, room, and board and the calendar year for family income.
SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS Institutional Characteristics Survey. U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Money Income of Families and Persons: March . . . ," various years.

## Net cost of college attendance for full-time, dependent undergraduate students

- **In 1989-90, 27 percent of the cost of college attendance was met by financial aid in the form of grants, loans to students, and work-study earnings. However, this percentage varied widely by family income. For example, for students attending public 2-year colleges, it varied from 34 percent for students from low income families to 2 percent for students from high income families.**
- **In 1989-90, 44 percent of students had a net cost of attendance that exceeded their expected family contribution. This percentage also varied widely by family income. For example, among students attending public 4-year colleges it varied from about 60 percent for students from low income families to 25 percent for students from high income families.**

*One factor affecting a student's access to postsecondary education is the net cost of attendance in relation to the family's ability to pay. The net cost of attendance is tuition and fees, room and board, books, transportation and other miscellaneous expenses less financial aid. The family's ability to pay is measured by the expected family contribution (EFC). If the net cost of attendance is less than EFC, then the student has access to postsecondary education in the sense that the financial cost is bearable. If the student has access to institutions in several cost ranges, then the student has choices among several types of postsecondary institutions.*

### Selected characterstics of the cost of college attendance for dependent, full-time fall undergraduate students, by type and control of institution and family income: 1989-90

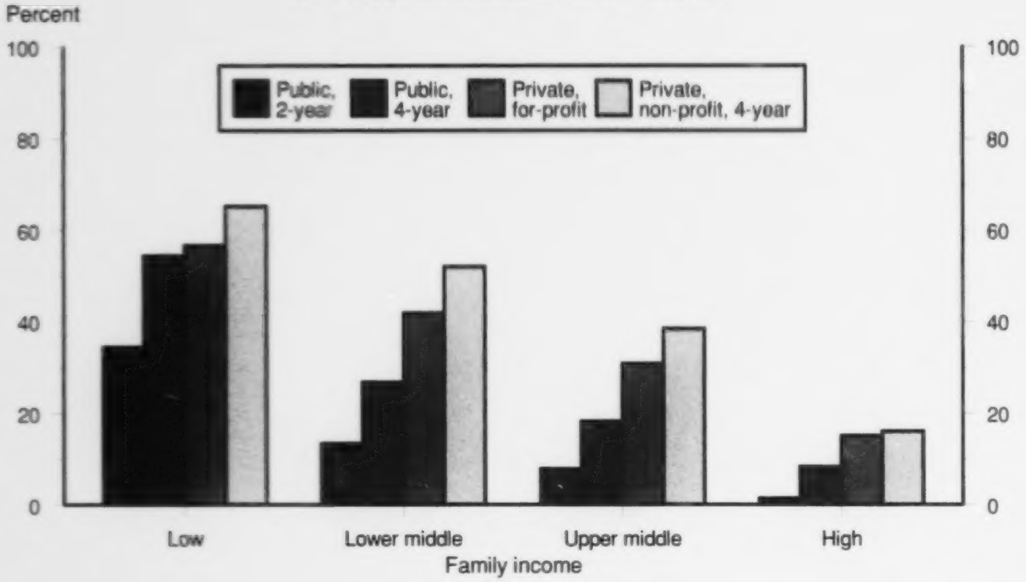
| Type and control of institution and family income | Tuition and fees | Total cost | Net cost | Aid as percent of total cost (average) | Students with net cost greater than EFC (percent) |
|---|---|---|---|---|---|
| Total | $3,780 | $8,444 | $6,286 | 27.0 | 43.6 |
| **Public, 2-year** | **873** | **5,049** | **4,485** | **14.9** | **43.4** |
| Low | 806 | 5,190 | 3,962 | 34.4 | 63.4 |
| Lower middle | 916 | 4,947 | 4,371 | 13.3 | 47.0 |
| Upper middle | 926 | 4,880 | 4,612 | 7.9 | 30.0 |
| High | 824 | 5,237 | 5,152 | 1.5 | 29.6 |
| **Public, 4-year** | **2,217** | **7,148** | **5,678** | **25.0** | **40.4** |
| Low | 2,026 | 6,983 | 3,813 | 54.5 | 59.6 |
| Lower middle | 2,131 | 6,828 | 5,285 | 26.8 | 52.3 |
| Upper middle | 2,188 | 6,831 | 5,753 | 18.2 | 30.7 |
| High | 2,509 | 7,913 | 7,372 | 8.3 | 25.0 |
| **Private, for-profit** | **4,932** | **9,479** | **6,090** | **43.3** | **59.2** |
| Low | 4,697 | 8,646 | 4,520 | 56.7 | 70.3 |
| Lower middle | 5,085 | 10,004 | 6,464 | 41.9 | 68.1 |
| Upper middle | 4,931 | 9,903 | 7,259 | 30.9 | 41.2 |
| High | 5,894 | 10,907 | 9,517 | 15.1 | 26.4 |
| **Private, nonprofit, 4-year** | **9,072** | **13,955** | **9,174** | **38.5** | **48.5** |
| Low | 8,084 | 12,867 | 5,076 | 65.3 | 65.0 |
| Lower middle | 8,465 | 13,011 | 6,757 | 52.1 | 58.8 |
| Upper middle | 8,805 | 13,407 | 8,476 | 38.5 | 45.7 |
| High | 10,300 | 15,471 | 13,274 | 16.1 | 35.0 |

NOTE: Net cost is total cost less financial aid. Categories of family income are defined based on quartiles of the family income of all dependent undergraduate college students. See note to supplemental table 10-1 for more details. Also see supplemental note to *Indicator 10* for definitions of the important terms used in the indicator.

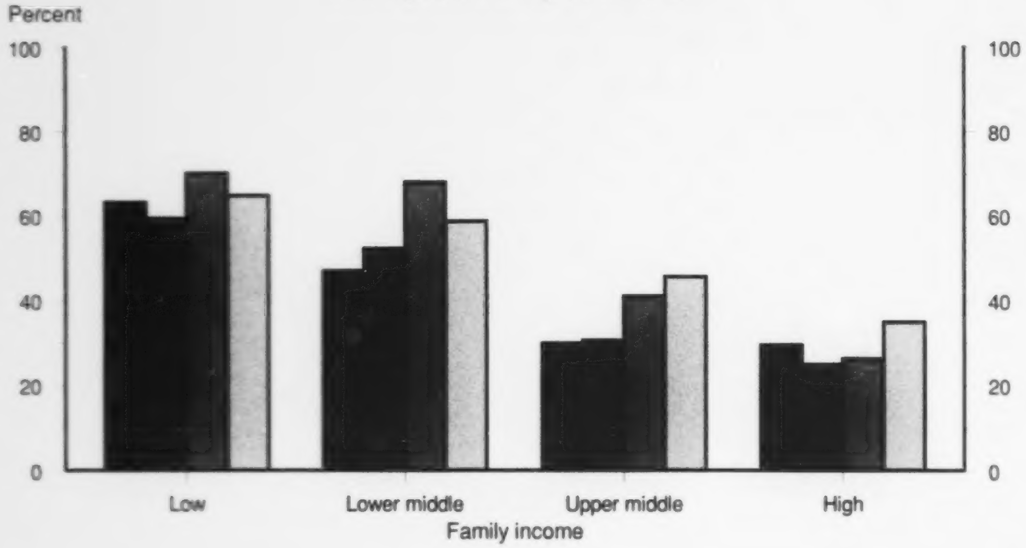
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Average percentage of total cost met by aid and percentage of students with net cost greater than expected family contribution for full-time, dependent fall undergraduate college students, by type and control of institution and family income: 1989–90

Average percent of total cost met by aid



Percentage of students with net cost greater than expected family contribution



NOTE: See supplemental note to *Indicator 10* for definitions of the important terms used in this indicator.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

# Achievement, Attainment, and Curriculum

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Indicators of what students have learned in school are perhaps the most important measures of the outcomes of education. Performance on examinations is one measure of what has been learned. However, examinations do not measure the wide variety of skills and experiences that formal education provides. Educational attainment (e.g., finishing high school or college) is an indirect measure of how much students have potentially learned subject matter as well as how much students have potentially gained in learning civic responsibilities, social and work skills with other people, and life skills. However, students have choices about what they study in high school and college. Information about courses taken and fields of study is an additional indirect indication of the content of a student's knowledge.

**Achievement**

The National Assessment of Educational Progress (NAEP) has assessed what students know and can do in reading, writing, science, mathematics, and other subjects for more than 20 years. Generally, the evidence shows little overall change in student proficiency in these areas. Average reading proficiency among 9- and 13-year-olds was about the same in 1990 as in 1971; among 17-year-olds it was slightly higher in 1991. Average writing proficiency among 4th and 11th graders was about the same in 1990 as in 1984; among 8th graders it was somewhat lower. Average science proficiency among 9- and 13-year-olds was the same in 1990 as in 1970; among 17-year-olds it was lower (*Indicators 11, 12, 13, and 14*).

Average mathematics proficiency among 9- and 13-year-olds was slightly higher in 1990 than in 1973; among 17-year-olds it was about the same (*Indicator 13*). More recently, there were increases in average mathematics proficiency between 1990 and 1992 for 4th-, 8th-, and 12th-grade students, in public and private schools. Eighteen of 37 states that participated in the grade eight Trial State Assessment Program in both 1990 and 1992 showed increased average mathematics proficiency for their public-school students, and in the remaining states the average mathematics proficiency was relatively unchanged.*

Average scores on the mathematics section of the SAT showed similar patterns of change as did average mathematics proficiency in NAEP. SAT scores fell somewhat during the 1970s and then rose during much of the 1980s. Unlike NAEP, not all the decline in SAT math scores during the 1970s was recouped during the 1980s. However, participation in the SAT exam has increased significantly—in 1992 SAT test-takers were 42 percent of high school graduates, up from 33 percent in 1980 (Table 18-1). Also, average scores on the quantitative component of the Graduate Record Exam for U.S. citizens have shown a significant increase since the mid-1970s (Table 19-3).

Although overall scores have not changed much over two decades, NAEP gives evidence that the large gap in achievement between whites and minorities has narrowed substantially. Blacks have improved relative to whites in reading, mathematics, and science. For example, in 1971 average reading proficiency among 17-year-old blacks was well below (52 scale points) 17-year-old whites and also below (22 points) 13-year-old whites; although the gap was still large in 1990, the proficiency of 17-year-old blacks was closer (30 points) to that of 17-year-old whites, and slightly higher than 13-year-old whites. The improvement among Hispanics relative to whites was not as widespread as it was among blacks.

*International comparisons.* Recent international comparisons of student achievement are available in basic reading literacy, math, and science. Generally, U.S. students compare favorably to their counterparts in other large industrialized countries in reading, but unfavorably in math and science. However, differences among countries do not seem so large when they are compared to the variation within countries. Although the United States is a large culturally diverse country, in one respect—language—it is less diverse than other large industrialized countries. A smaller percentage of age 9 students in the United States than in West Germany, France, Italy, or Canada speak a language at home different from the one used at school (*Indicator 17*). International comparisons of educational achievement, attainment, and other indicators are discussed in more detail on page 7.

**Attainment**

*High school completion.* In 1991, the percentage of 19- to 20-year-olds who were status dropouts (neither a high school graduate nor still enrolled in high school) was about the same as it was in 1990. However, over the longer term (since 1972) there has been a general decline in the percentage of this age group who were dropouts. The status dropout rate among blacks was somewhat higher than it was among whites (17 compared to 11 percent); however, among Hispanics it was much higher (36 percent) (*Indicator 20*). A part, but not all, of the high dropout rate among Hispanics is due to the high dropout rate among Hispanics born outside the 50 states and D.C. Among 16- to 24-year-olds in 1989, 43 percent of this group were dropouts compared to 17 percent of first generation Hispanics and 24 percent of Hispanics who were at least second generation (*Indicator 21*). However, these rates for first and second generation Hispanics were much higher than for first or second generation non-Hispanics.

*College attainment.* After high school, many people stop (or delay) further formal education. In 1992, while 88 percent of 30- to 34-year-olds had completed high school, 48 percent had some college or an associate's degree (or 55 percent of those who completed high school). Among the same age group, 23 percent had completed a bachelor's degree (or 47 percent of those with some college or an associate's degree), and 7 percent had an advanced degree (or 30 percent of those who graduated from college) (*Indicator 22*).

**Curriculum**

It is important to examine the courses students take in high school (*Indicators 25, 26, 27*) and college (*Indicator 28*) because these are an indication of what they learn. A larger percentage of 1990 than 1982 high school graduates took mathematics and science courses (both overall and in specific subject areas), particularly in geometry, algebra II, algebra I, biology, and chemistry. The improvement was seen among both sexes and all racial/ethnic groups. A larger percentage of 1990 than 1982 high school graduates took the number of units in the core courses—4 in English, 3 in social science, 3 in science, and 3 in mathematics—recommended by the commission that issued *A Nation At Risk* in 1983. In 1990, 40 percent of high school graduates had taken at least these courses compared to 13 percent in 1982. Again, the improvement was seen among both sexes and all racial/ethnic groups. In 1992, 57 Advanced Placement examinations per 1000 11th and 12th graders were taken compared to 24 per 1000 in 1984. Again, the improvement was seen among both sexes and all racial/ethnic groups. The evidence from indicators of course-taking patterns suggests that high school students are taking more courses in the important core subjects and are more frequently taking higher level courses in those subjects.

NOTE:

* U.S. Department of Education, National Center for Education Statistics, *NAEP 1992 Mathematics Report Card for the Nation and the States*, 1993.

## Trends in the reading proficiency of 9-, 13-, and 17-year-olds

- **Overall, average reading proficiency for 9- and 13-year-olds was the same in 1990 as in 1971; for 17-year-olds it was somewhat higher in 1990 than in 1971.**
- **Average reading proficiency of black students at all three ages was higher in 1990 than in 1971.**
- **Hispanic 17-year-olds were reading better in 1990 than in 1975.**
- **Between 1971 and 1988, 13- and 17-year-old blacks narrowed gaps between their reading proficiency scores and those of their white counterparts. Similarly, between 1975 and 1988, 17-year-old Hispanics also narrowed gaps between their scores and those of whites. However, large gaps remain, and among black students, the gap did not continue to narrow in 1990.**

> *Reading skills are basic to the educational process. When students fall behind in their reading proficiency, they may find it difficult to benefit from other aspects of the curriculum. In the future, poor readers may also find it difficult to participate effectively in an economy requiring increasingly sophisticated job skills.*

**Average reading proficiency (scale score), by age and race/ethnicity: 1971–1990**

| | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1971 | 208 | 214 | [1]170 | — | 255 | 261 | [1]222 | — | [1]285 | [1]291 | [1]239 | — |
| 1975 | 210 | 217 | [2]181 | 183 | 256 | 262 | [1]226 | 233 | [1]286 | 293 | [1]241 | [1]252 |
| 1980 | [1,2]215 | [2]221 | [2]189 | 190 | 259 | [2]264 | [1,2]233 | 237 | 286 | 293 | [1]243 | [1]261 |
| 1984 | 211 | [2]218 | [2]186 | 187 | 257 | 263 | [2]236 | 240 | 289 | [2]295 | [2]264 | [2]268 |
| 1988 | 212 | 218 | [2]189 | 194 | 258 | 261 | [2]243 | 240 | [2]290 | 295 | [2]274 | [2]271 |
| 1990 | 209 | 217 | [2]182 | 189 | 257 | 262 | [2]242 | 238 | [2]290 | [2]297 | [2]267 | [2]275 |

**Average reading proficiency (scale score), by age and sex: 1971–1990**

| | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| Year | Male | Female | Male | Female | Male | Female |
| 1971 | 201 | 214 | 250 | 261 | 279 | 291 |
| 1975 | 204 | 216 | 250 | 262 | 280 | [1]291 |
| 1980 | [1,2]210 | [1,2]220 | [2]254 | 263 | 282 | [1]289 |
| 1984 | [2]208 | 214 | 253 | 262 | [2]284 | 294 |
| 1988 | [2]208 | 216 | 252 | 263 | [2]286 | 294 |
| 1990 | 204 | 215 | 251 | 263 | 284 | 297 |

— Not available.

[1] Statistically significant difference from 1990.

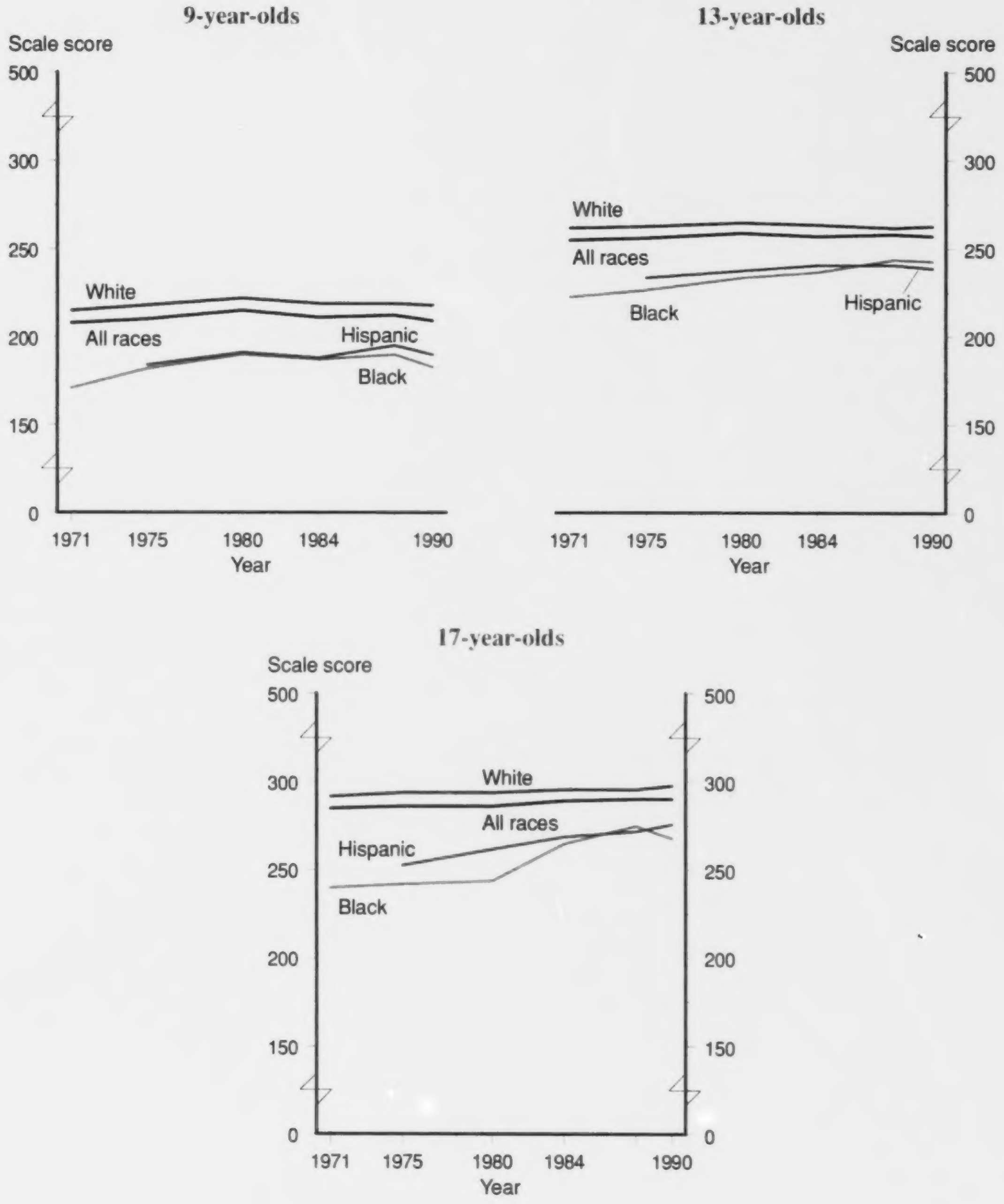
[2] Statistically significant difference from 1971 for all except Hispanics. Statistically significant difference from 1975 for Hispanics.

**NOTE: Reading Proficiency Scale has a range from 0 to 500**

Level 150: Simple discrete reading tasks
Level 200: Partial skills and understanding
Level 250: Interrelate ideas, and make generalizations
Level 300: Understands relatively complicated information
Level 350: Learns from specialized reading materials

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Average reading proficiency, by age and race/ethnicity: 1971–1990



SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Trends in writing proficiency in grades 4, 8, and 11

- **Between 1984 and 1990, average writing scale scores were near the minimal range for both eighth and eleventh grade students. In addition, these scores have changed little since 1984 for 11th graders.**
- **Among 4th and 11th graders, levels of writing proficiency in 1990 were approximately the same as in 1984. However, at grade 8, overall average writing proficiency was somewhat lower in 1990 than in either 1988 or 1984.**
- **In 1990, whites continued to score higher than blacks and Hispanics at all three grade levels.**
- **Females consistently scored higher than males at each grade level. In 1990, male *eighth* graders produced writing proficiency scores similar to female *fourth* graders.**
- **Since 1984, students in advantaged urban communities in all three age groups have performed at higher levels of writing proficiency than their counterparts in disadvantaged urban communities (supplemental table 12-1).**

*Effective writing skills are fundamental for educational success as well as for later success in the workforce. In a variety of courses, students often must convey complex ideas and information in a clear, succinct manner. Inadequate writing skills, therefore, could inhibit achievement across the curriculum.*

### Average writing proficiency scores (scale scores), by age and race/ethnicity: 1984–1990

| | Grade 4 | | | | Grade 8 | | | | Grade 11 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1984 | 179 | 186 | 154 | 163 | *206 | *210 | 190 | 191 | 212 | 218 | 195 | 188 |
| 1988 | 186 | 193 | 154 | 169 | *203 | *207 | 190 | 188 | 214 | 219 | 200 | 199 |
| 1990 | 183 | 191 | 155 | 168 | 198 | 202 | 182 | 189 | 212 | 217 | 194 | 198 |

### Trends in average writing proficiency (scale scores), by sex: 1984–1990

| | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|
| Year | Male | Female | Male | Female | Male | Female |
| 1984 | 176 | *184 | *199 | *214 | 201 | 223 |
| 1988 | 176 | 195 | 193 | 213 | 204 | 223 |
| 1990 | 174 | 193 | 187 | 208 | 200 | 224 |

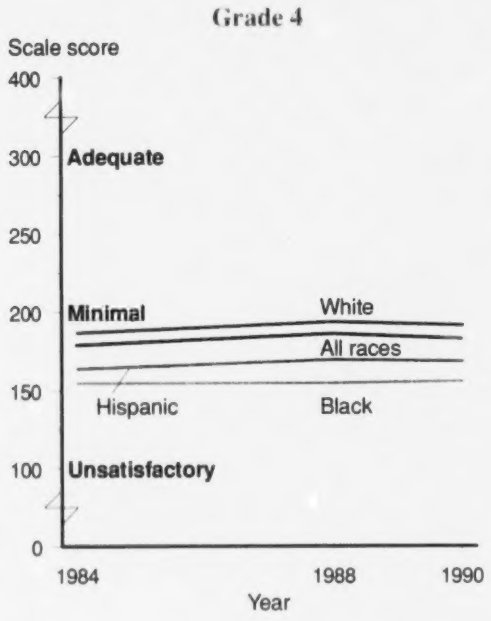
* Statistically significant difference from 1990.

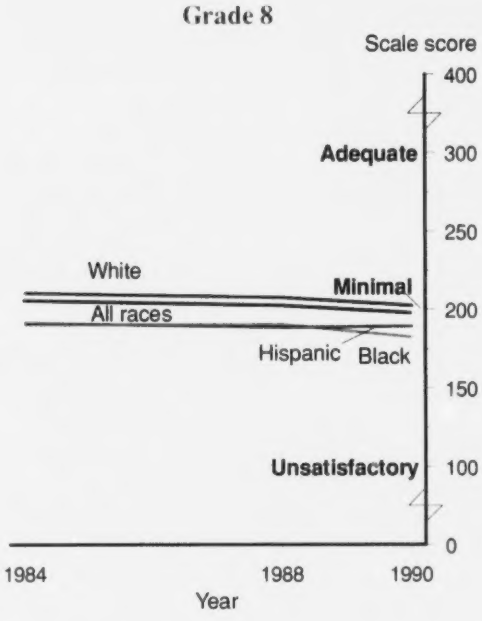
NOTE: Average NAEP writing assessment scores were produced using the Average Response Method (ARM). The ARM provides an estimate of average writing achievement for each respondent as if he or she took 11 of the 12 writing tasks given, and as if NAEP had computed average achievement across that set of tasks.

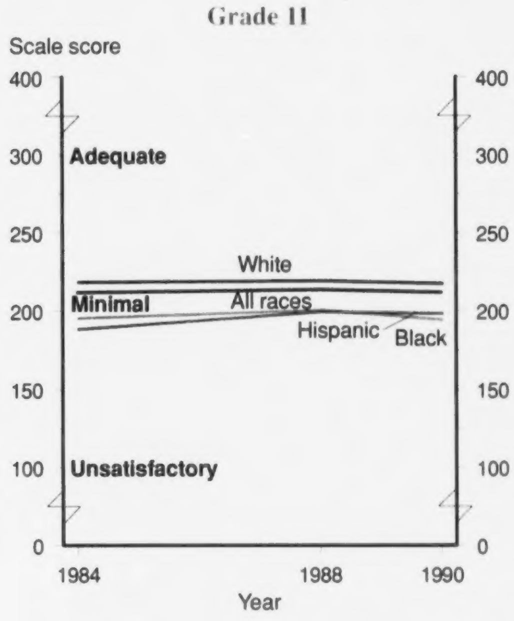
NOTE: **Writing Proficiency Scale has a range from 0 to 400**
Level 100: **Unsatisfactory**–Failed to reflect a basic understanding of the task.
Level 200: **Minimal**–Recognized the elements needed to complete the task, but these were not managed well enough to insure the intended purpose.
Level 300: **Adequate**–Included features critical to accomplishing the purpose of the task and were likely to have the intended effect.
Level 400: **Elaborated**–Reflected a higher level of coherence and elaboration; beyond adequate.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Average writing proficiency in grades 4, 8, and 11, by race/ethnicity: 1984–1990







SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Trends in the mathematics proficiency of 9-, 13-, and 17-year-olds

- **Overall, at ages 9 and 13, average mathematics proficiency improved somewhat between 1973 and 1990, but scores for 17-year-olds showed no improvement over the same period.**
- **Since 1973, white, black, and Hispanic 9-year-olds have shown improvement in average mathematics proficiency (10, 18, and 12 scale points, respectively). Most of this improvement occurred between 1982 and 1990.**
- **In 1990 large gaps existed between the mathematics proficiency of whites and their black and Hispanic peers. However, for blacks the gaps were narrower than they had been in 1973.**
- **In 1990, large variability in average mathematics proficiency scores across states was found. A difference of 35 scale points existed between average eighth-grade students' performance in the highest and lowest scoring states (supplemental table 13-5).**

*Proficiency in mathematics is an important outcome of education. In an increasingly technological world, the mathematics skills of the nation's workers may be a crucial component of economic competitiveness. In addition, knowledge of mathematics is critical for success in science, computing, and a number of other related fields of study.*

### Average mathematics proficiency (scale score), by age and race/ethnicity: 1973–1990

| | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1973 | [1]219 | [1]225 | [1]190 | [1]202 | [1]266 | 274 | [1]228 | [1]239 | 304 | 310 | [1]270 | 277 |
| 1978 | [1]219 | [1]224 | [1]192 | [1]203 | [1]264 | [1]272 | [1]230 | [1]238 | [1]300 | [2]306 | [1]268 | 276 |
| 1982 | [1]219 | [1]224 | [1]195 | [1]204 | 269 | 274 | [1,2]240 | [2]252 | [1,2]299 | [1,2]304 | [1]272 | 277 |
| 1986 | [1]222 | [1]227 | [2]202 | 205 | 269 | 274 | [2]249 | [2]254 | 302 | 308 | [1,2]279 | 283 |
| 1990 | [2]230 | [2]235 | [2]208 | [2]214 | [2]270 | 276 | [2]249 | [2]255 | 305 | 310 | [2]289 | 284 |

### Average mathematics proficiency (scale score), by age and sex: 1973–1990

| | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| Year | Male | Female | Male | Female | Male | Female |
| 1973 | [1]218 | [1]220 | [1]265 | 267 | 309 | 301 |
| 1978 | [1]217 | [1]220 | [1]264 | [1]265 | [2]304 | [1]297 |
| 1982 | [1]217 | [1]221 | 269 | 268 | [1,2]302 | [1,2]296 |
| 1986 | [1,2]222 | [1]222 | [2]270 | 268 | 305 | 299 |
| 1990 | [2]229 | [2]230 | [2]271 | 270 | 306 | 303 |

[1] Statistically significant difference from 1990.

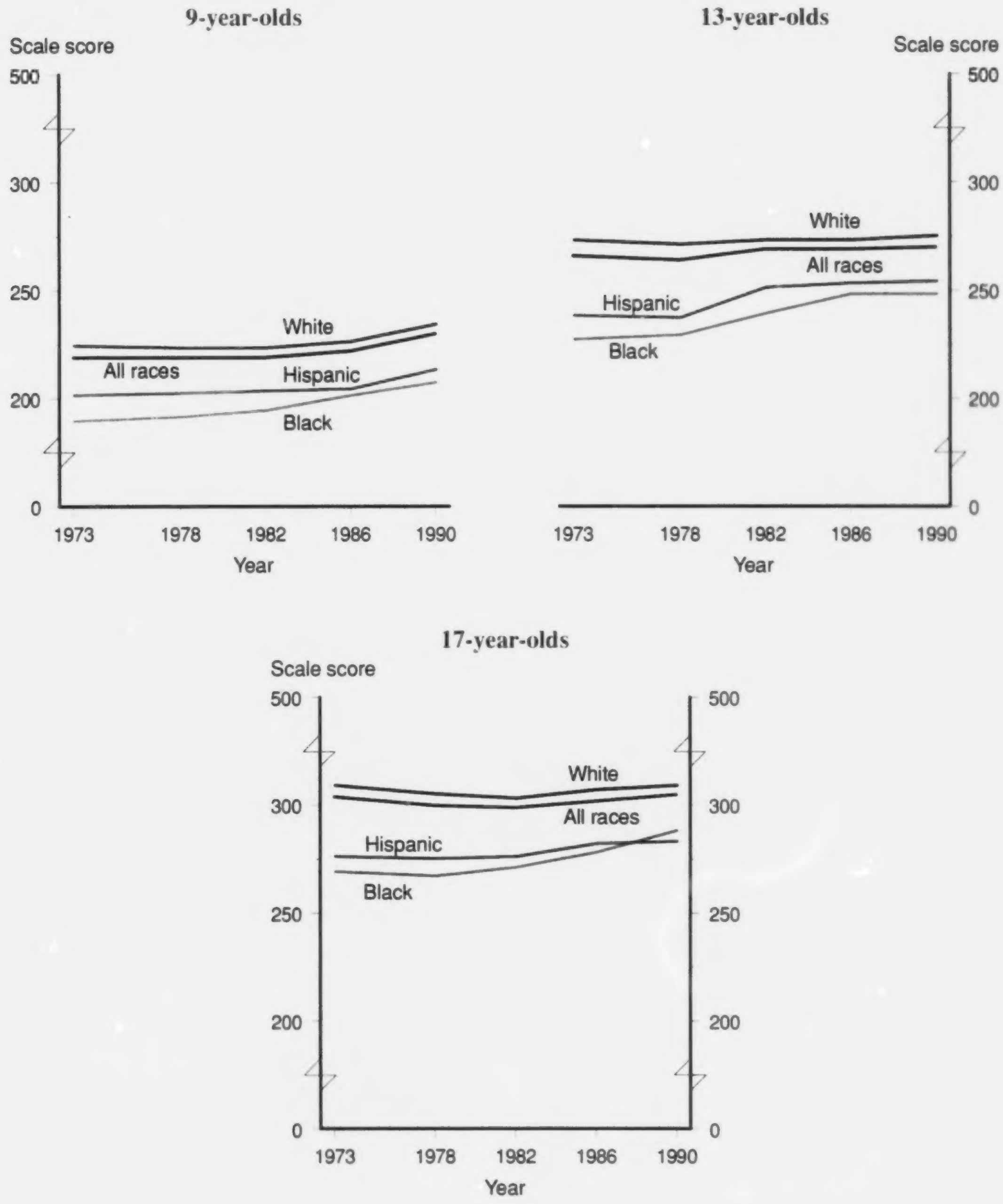
[2] Statistically significant difference from 1973.

**Note: Mathematics Proficiency Scale has a range from 0 to 500**

Level 150: Simple arithmetic facts
Level 200: Beginning skills and understandings
Level 250: Numerical operations and beginning problem solving
Level 300: Moderately complex procedures and reasoning
Level 350: Multi-step problem solving and algebra

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Average mathematics proficiency, by age and race/ethnicity: 1973–1990



SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Trends in the science proficiency of 9-, 13-, and 17-year-olds

- **In 1990, overall science achievement was at the same level at ages 9 and 13 as it was in 1970, but science achievement for 17-year-olds in 1990 was lower than in 1970.**
- **Between 1977 and 1990, the average science proficiency of 9- and 13-year-olds increased in all three racial/ethnic groups. The average science proficiency of 17-year-olds in all racial/ethnic groups increased between 1982 and 1990.**
- **In 1990, 9-year-old males and females produced similar average science proficiency scores, but 17-year-old males produced significantly higher average proficiency scores than did 17-year-old females.**
- **Although the gap between the performance of white and black 9- and 13-year-olds decreased between 1970 and 1990, the average performance of black students was still below that of white students in 1990.**

> *Competence in science is an important outcome of education. The ability to apply scientific information, interpret data, and make inferences about scientific findings is required in a world which relies heavily on technological and scientific advances.*

**Average science proficiency (scale score), by age and race/ethnicity: 1970–1990**

| | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1970 | 225 | 236 | [1]179 | — | 255 | 263 | 215 | — | [1]305 | [1]312 | 258 | — |
| 1973 | [1,2]220 | [1,2]231 | [1]177 | — | [1,2]250 | [1,2]259 | [1]205 | — | [1,2]296 | [2]304 | [2]250 | — |
| 1977 | [1,2]220 | [1,2]230 | [1]175 | [1]192 | [1,2]247 | [1,2]256 | [1]208 | [1]213 | [2]290 | [2]298 | [1,2]240 | 262 |
| 1982 | [1]221 | [1,2]229 | 187 | [1]189 | [1]250 | [1,2]257 | 217 | [2]226 | [1,2]283 | [1,2]293 | [1,2]235 | [1,2]249 |
| 1986 | [1]224 | [1]232 | [2]196 | 199 | 251 | [1]259 | 222 | [2]226 | [2]289 | [2]298 | 253 | 259 |
| 1990 | 229 | 238 | [2]196 | [2]206 | 255 | 264 | 226 | [2]232 | [2]290 | [2]301 | 253 | 262 |

**Average science proficiency (scale score), by age and sex: 1970–1990**

| | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1970 | 228 | 223 | 257 | 253 | [1]314 | [1]297 |
| 1973 | [1]223 | [1]218 | [1]252 | [2]247 | [1,2]304 | [2]288 |
| 1977 | [1,2]222 | [1,2]218 | [1,2]251 | [1,2]244 | [2]297 | [2]282 |
| 1982 | [1]221 | [1]221 | 256 | [1,2]245 | [2]292 | [1,2]275 |
| 1986 | 227 | [1]221 | 256 | [2]247 | [2]295 | [2]282 |
| 1990 | 230 | 227 | 259 | 252 | [2]296 | [2]285 |

— Not available.

[1] Statistically significant difference from 1990.

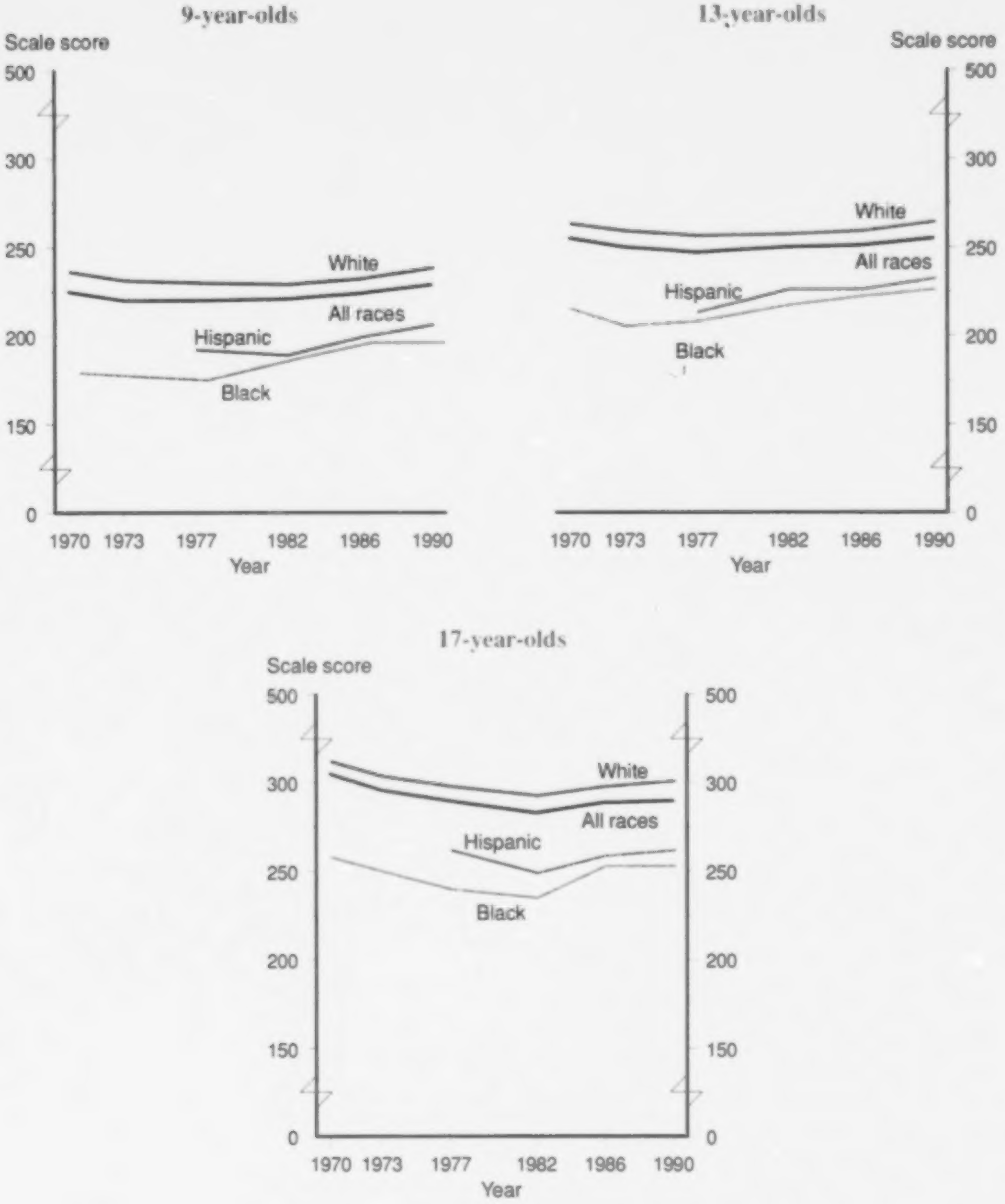
[2] Statistically significant difference from 1970 for all except Hispanics. Statistically significant difference from 1977 for Hispanics.

**NOTE: Science Proficiency Scale has a range from 0 to 500.**

Level 150: Knows everyday science facts
Level 200: Understands simple scientific principles
Level 250: Applies general scientific information
Level 300: Analyzes scientific procedures and data
Level 350: Integrates specialized scientific information

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, Writing, 1984 to 1990*, 1991.

### Average science proficiency, by age and by race/ethnicity: 1970–1990



SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## International comparisons of mathematics performance

- **In the second International Assessment of Educational Progress (IAEP), 9-year-old students from the United States scored lower on average in mathematics performance than 9-year-olds from all other large countries.**
- **Thirteen-year-olds from the United States scored lower on average than students of the same age in other large countries, except Spain.**
- **Average mathematics proficiency among 9-year-old students in the United States was 53 scale points below their Korean counterparts. This is close to three-quarters of the difference between 9-year-olds and 13-year-olds in the United States, suggesting that Korean students at age 9 may be performing at levels similar to U.S. students 2 to 3 years older.**

> *The technical skills of a nation's workers are a critical component of its economic competitiveness. The youth of today will be tomorrow's workers and will be competing in the global marketplace. They will depend on the mathematics learned in this decade to succeed in the complex business and technological environment of the future.*

- **There is far greater variation in the mathematics proficiency of students within each country than differences in averages among countries. For example, among 13-year-olds the difference between the 10th and 90th percentile is 124 scale points in the United States, compared to a difference in average proficiency between the United States and Taiwan of 51 scale points.**

**Proficiency scores on mathematics assessment, by age and country: 1991 .**

| | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Larger countries[1] | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Age 9** | | | | | | | | | | |
| Korea | 473 | 480 | 465 | 334 | 383 | 407 | 475 | 534 | 550 | 586 |
| Taiwan | 454 | 455 | 453 | 304 | 360 | 384 | 457 | 521 | 539 | 571 |
| Soviet Union[2] | 447 | 448 | 446 | 310 | 349 | 374 | 450 | 514 | 532 | 579 |
| Spain[3] | 432 | 432 | 432 | 287 | 330 | 353 | 437 | 499 | 518 | 551 |
| Canada[4] | 430 | 430 | 431 | 296 | 337 | 363 | 435 | 490 | 506 | 537 |
| United States | 420 | 422 | 419 | 278 | 305 | 333 | 427 | 492 | 513 | 549 |
| **Age 13** | | | | | | | | | | |
| Taiwan | 545 | 546 | 544 | 368 | 424 | 454 | 550 | 631 | 659 | 694 |
| Korea | 542 | 546 | 537 | 390 | 445 | 470 | 545 | 609 | 629 | 665 |
| Soviet Union[2] | 533 | 533 | 532 | 414 | 459 | 477 | 536 | 584 | 596 | 629 |
| France | 519 | 523 | 515 | 404 | 442 | 460 | 521 | 574 | 588 | 616 |
| Canada[5] | 513 | 515 | 512 | 400 | 443 | 462 | 515 | 564 | 580 | 608 |
| Spain[3] | 495 | 498 | 492 | 390 | 429 | 446 | 496 | 542 | 556 | 577 |
| United States | 494 | 494 | 494 | 366 | 407 | 430 | 495 | 554 | 575 | 616 |

[1] In the International Assessment of Educational Progress, 20 countries assessed the mathematics achievement of 13-year-olds and 14 assessed 9-year-olds. The countries above are the larger countries which assessed virtually all age-eligible children, except as noted. See supplemental tables 15-1 through 15-4 for performance information on other countries.

[2] Fourteen out of 15 republics in the former Soviet Union; Russian-speaking schools.

[3] Regions except Cataluña; Spanish-speaking schools.

[4] Four out of 10 provinces; see supplemental table 15-1 for the scores of 9-year-olds in individual Canadian provinces.

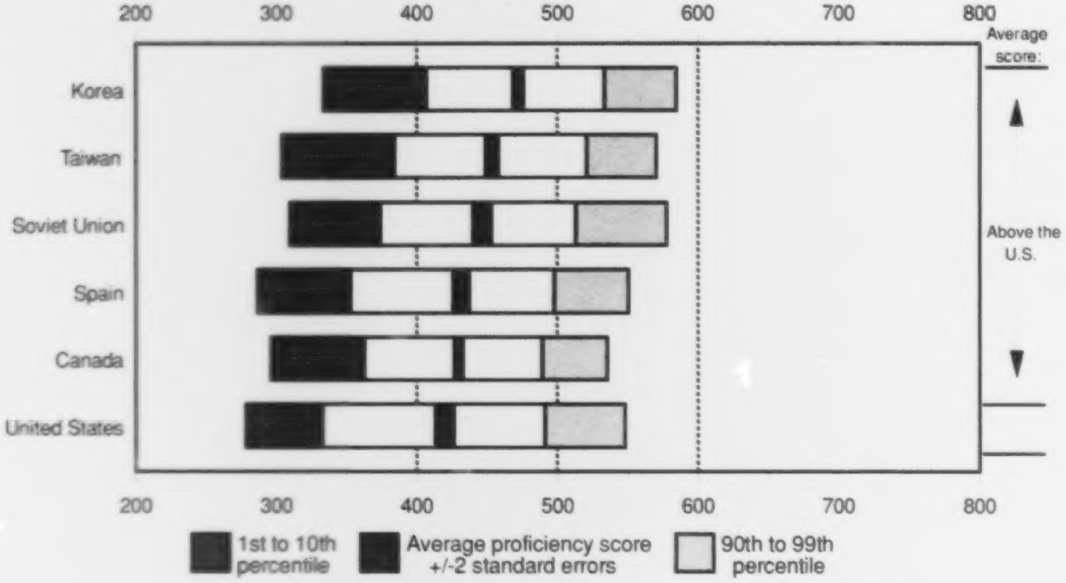
[5] Nine out of 10 provinces; see supplemental table 15-3 for the scores of 13-year-olds in individual Canadian provinces.

NOTE: Proficiency scores range from 0–1,000. The mean proficiency score for all participating populations, 9- and 13-year olds together, is 500. The standard deviation is 100. See supplemental note for *Indicator 15* for a discussion of proficiency scaling.

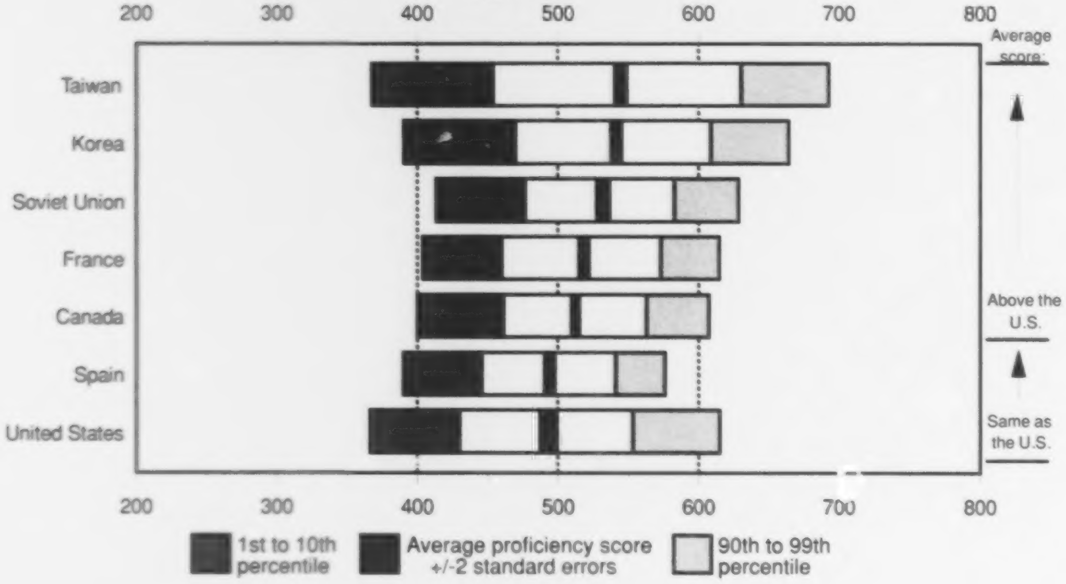
SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Distribution of proficiency scores on mathematics assessment, by age and country: 1991

Age 9



Age 13



NOTE: The scale for proficiency scores ranges from 0 – 1,000. The mean proficiency score for all participating populations, 9- and 13-year-olds together, is 500. The standard deviation is 100.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## International comparisons of science performance

- **In the second International Assessment of Educational Progress (IAEP), 9-year-old students from Korea scored higher on average in science performance than 9-year-olds from the United States. Students of the same age from Spain scored lower on average.**
- **Thirteen-year-olds from Korea, Taiwan, the former Soviet Union, and Canada scored higher on average than U.S students of the same age.**
- **The difference in science proficiency between 9- and 13-year-olds in the United States (75 points) was less than the proficiency difference in other large countries (from 94 to 110 points).**
- **Among 9-year-olds, boys performed better than girls in Korea, Taiwan, and Spain. At age 13, this gender difference held across all large participating countries except Taiwan.**

> *The scientific and technological skills of a nation's workers are a critical component of its economic competitiveness. The youth of today will be tomorrow's workers and will be competing in the global marketplace. They will depend on the science learned in this decade to succeed in the complex business and technological environment of the future.*

**Proficiency scores on science assessment, by age and country: 1991**

| | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Larger countries[1] | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Age 9** | | | | | | | | | | |
| Korea | 461 | 474 | 446 | 303 | 357 | 383 | 460 | 541 | 563 | 609 |
| Taiwan | 456 | 466 | 445 | 254 | 321 | 359 | 459 | 553 | 576 | 627 |
| United States | 446 | 451 | 441 | 235 | 292 | 328 | 453 | 543 | 567 | 605 |
| Canada[2] | 437 | 439 | 434 | 257 | 316 | 346 | 443 | 517 | 538 | 582 |
| Soviet Union[3] | 434 | 441 | 428 | 284 | 328 | 356 | 433 | 515 | 547 | 588 |
| Spain[4] | 430 | 439 | 421 | 250 | 306 | 334 | 435 | 522 | 541 | 567 |
| **Age 13** | | | | | | | | | | |
| Korea | 571 | 580 | 559 | 396 | 457 | 490 | 575 | 649 | 670 | 710 |
| Taiwan | 564 | 567 | 560 | 339 | 420 | 463 | 572 | 655 | 673 | 715 |
| Soviet Union[3] | 541 | 546 | 535 | 384 | 438 | 465 | 545 | 612 | 629 | 661 |
| Canada[5] | 533 | 539 | 527 | 384 | 434 | 460 | 534 | 606 | 628 | 670 |
| France | 532 | 540 | 524 | 370 | 418 | 442 | 534 | 612 | 639 | 677 |
| Spain[4] | 525 | 531 | 519 | 380 | 428 | 454 | 524 | 596 | 617 | 663 |
| United States | 521 | 530 | 513 | 334 | 410 | 436 | 523 | 601 | 627 | 665 |

[1] In the International Assessment of Educational Progress, 20 countries assessed the science achievement of 13-year-olds and 14 assessed 9-year-olds. The countries above are the larger countries which assessed virtually all age-eligible children, except as noted. See supplemental tables 16-1 through 16-4 for performance information on other countries.

[2] Four out of 10 provinces; see supplemental table 16-1 for the scores of 9-year-olds in individual Canadian provinces.

[3] Fourteen out of 15 republics in the former Soviet Union; Russian-speaking schools.

[4] Regions except Cataluña; Spanish-speaking schools.

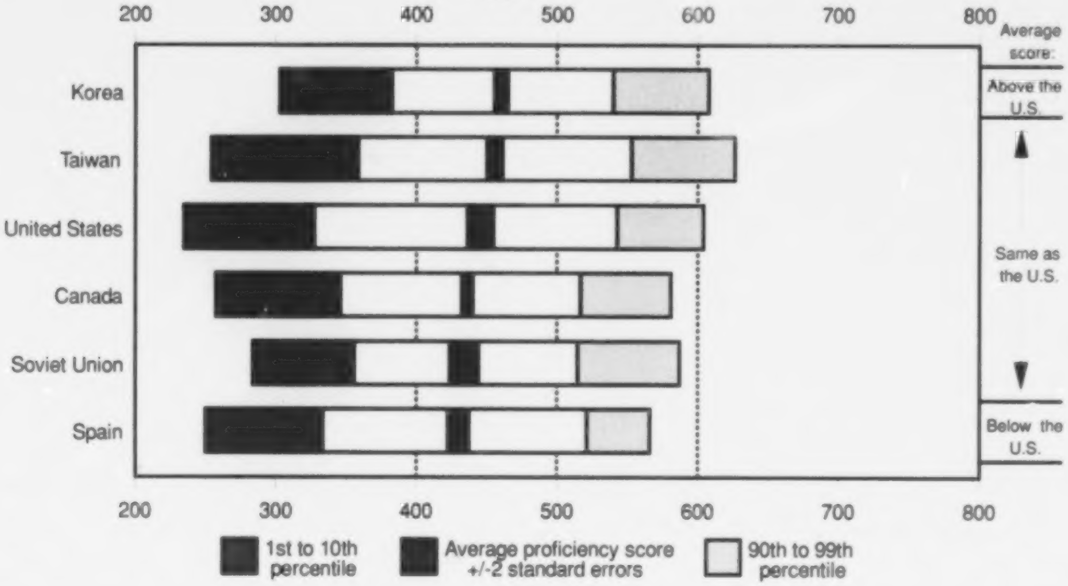
[5] Nine out of 10 provinces; see supplemental table 16-3 for the scores of 13-year-olds in individual Canadian provinces.

NOTE: Proficiency scores range from 0–1,000. The mean proficiency score for all participating populations, 9- and 13-year olds together, is 500. The standard deviation is 100. See supplemental note for *Indicator 15* for a discussion of proficiency scaling.

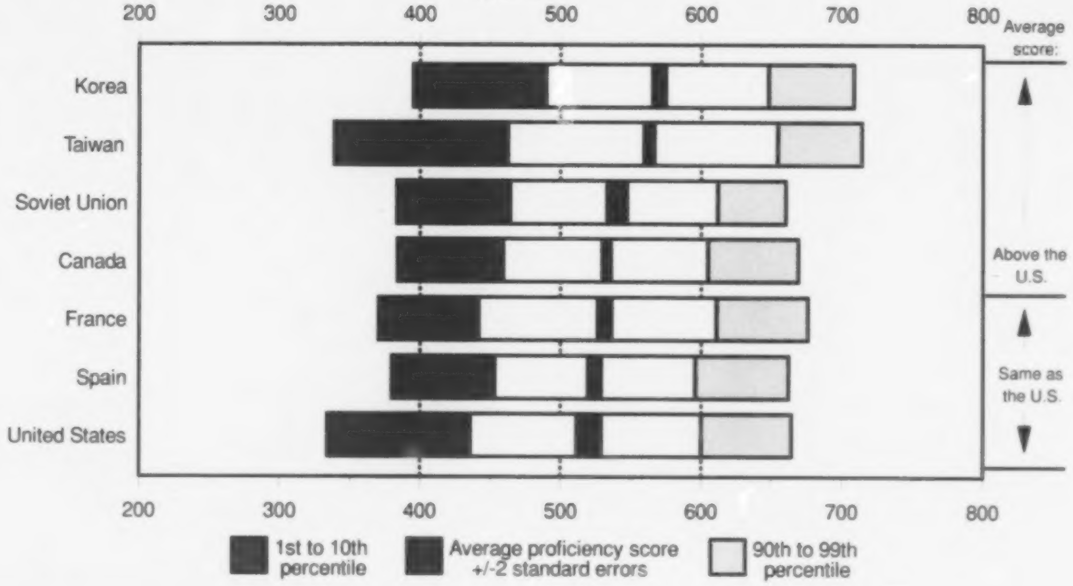
SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Distribution of proficiency scores on science assessment, by age and country: 1991

Age 9



Age 13



NOTE: The scale for proficiency scores ranges from 0 – 1,000. The mean proficiency score for all participating populations, 9- and 13-year-olds together, is 500. The standard deviation is 100.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## International comparisons of reading literacy

- **In an international assessment of basic reading literacy, 9-year-olds from the United States performed better on average than students from other large countries.**
- **At age 14, students in the United States had higher basic literacy skills than students of similar ages in Canada, West Germany, Italy, and Spain.**
- **There is far greater variation in the basic reading literacy of students within each country than differences in averages among countries. For example, among 9-year-olds, the difference between the 10th and the 90th percentile on the narrative domain is 235 scale points in the United States, compared to a difference of 51 scale points between the United States and Canada (supplemental table 17-2).**

> *The ability to read is a minimum requirement to participate productively in a global economy and to fulfill basic civic responsibilities. Comprehending and effectively using written language is critical for both future learning and the development of basic job skills.*

- **Girls achieved at higher levels than boys in all countries at age 9, and in most countries at age 14 (supplemental tables 17-1).**
- **Children whose home language is different from the one spoken at school show lower literacy levels in all countries at both age levels.**

**Average reading literacy scale score, by age and country: School year 1991–92**

| | Average overall score | | | Average domain scale score | | | Non-school language spoken at home | | School language spoken at home | |
|---|---|---|---|---|---|---|---|---|---|---|
| Larger counties | Total | Male | Female | Narrative | Expository | Documents | Percentage of students | Average score | Percentage of students | Average score |
| | | | | **Age 9** | | | | | | |
| United States | 547 | 543 | 552 | 553 | 538 | 550 | 4 | 520 | 96 | 549 |
| France | 531 | 530 | 533 | 532 | 533 | 527 | 9 | 491 | 91 | 536 |
| Italy | 529 | 525 | 537 | 533 | 538 | 517 | 27 | 513 | 73 | 537 |
| Spain | 504 | 500 | 508 | 497 | 505 | 509 | 13 | 499 | 87 | 505 |
| West Germany | 503 | 501 | 508 | 491 | 497 | 520 | 11 | 461 | 89 | 509 |
| Canada (BC)* | 500 | 495 | 506 | 502 | 499 | 500 | 11 | 448 | 89 | 502 |
| | | | | **Age 14** | | | | | | |
| France | 549 | 553 | 549 | 556 | 546 | 544 | 4 | 516 | 96 | 552 |
| United States | 535 | 530 | 543 | 539 | 539 | 528 | 4 | 478 | 96 | 539 |
| Canada (BC)* | 522 | 513 | 534 | 526 | 516 | 522 | 8 | 506 | 92 | 524 |
| West Germany | 522 | 522 | 526 | 514 | 521 | 532 | 8 | 455 | 92 | 530 |
| Italy | 515 | 511 | 520 | 520 | 524 | 501 | 26 | 488 | 74 | 525 |
| Spain | 490 | 488 | 492 | 500 | 495 | 475 | 11 | 481 | 89 | 491 |

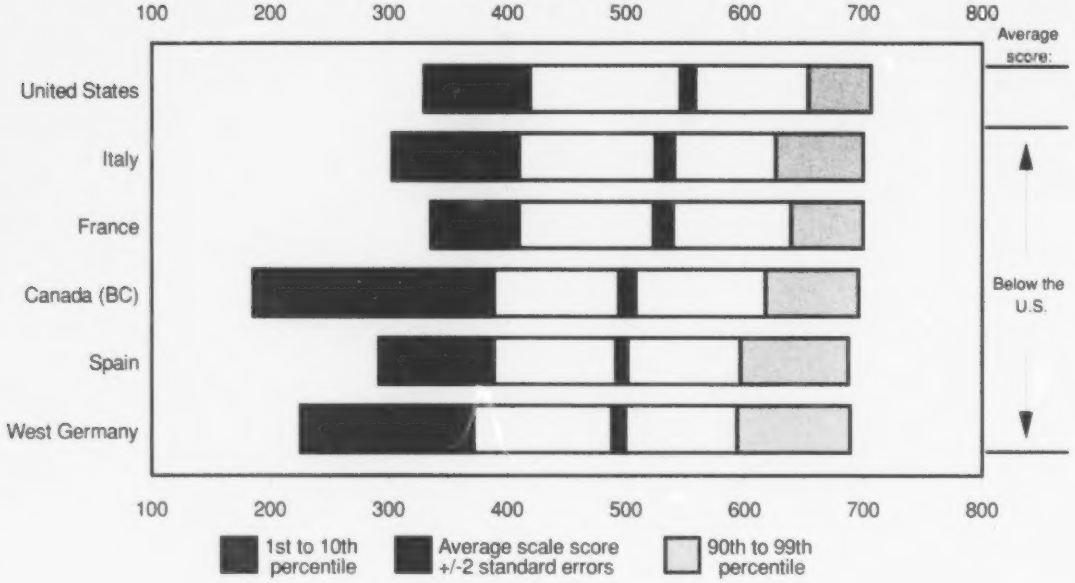
*British Columbia only.

NOTE: In the Study of Reading Literacy, 32 countries assessed the reading achievement of students in the grades where most 9- and 14-year-olds were enrolled. The countries above are the larger countries. The above scores were scaled using the Rausch procedure. The domain scores for each age group were scaled to a mean of 500 and a standard deviation of 100. The average overall score is the mean of the domain scale scores. Some student groups were excluded by the participating countries, such as those in private schools, schools serving handicapped children, or schools where the language of instruction is different than the primary national language. See supplemental tables 17-1 through 17-4 for details on excluded populations and performance information on other countries.

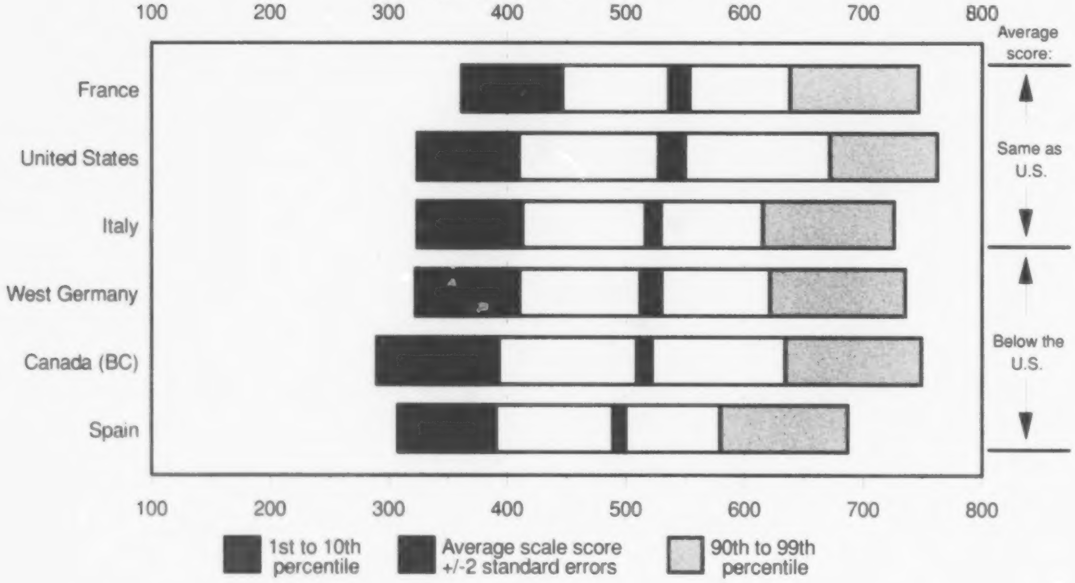
SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the World Do Students Read?*, 1992.

## Distribution of scale scores on reading literacy assessment, by age and country: School year 1991–92

Age 9, Narrative domain



Age 14, Expository domain



NOTE: The vertical lines at ability score 500 marks the average score for each age group for all participating countries. The standard deviation is 100.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the World Do Students Read?*, 1992.

## Scholastic Aptitude Test (SAT) scores

- **In 1992, the average SAT verbal score did not decline for the first time in 6 years, but this score was 8 points lower than the average verbal score in 1986. During the same period, the average SAT math score remained fairly constant.***

- **Between 1976 and 1992, on average, black students' SAT verbal scores increased by 20 points, and their mathematics scores increased by 31 points. In the same period, verbal scores among whites declined by 9 points and mathematics scores declined by 2 points. However, in 1992, scores for blacks remained well below those for whites on both the verbal and mathematics tests.***

- **In 1972, the average score gap between males and females was 2 points on the verbal test and 44 points on the mathematics test. In 1992, the gap on the verbal test had widened to 9 points, but had declined by 1 point on the mathematics test (supplemental table 18-3).**

*The Scholastic Aptitude Test (SAT) is the test taken most frequently by college-bound students. It is designed to predict success in the freshman year in college. This test summarizes the performance outcomes of college-bound youth. However, the reader should be aware that the proportion of high school graduates taking the exam changes over time which complicates comparisons.*

### SAT mean verbal scores of college bound seniors, by race/ethnicity and sex: 1976-1992

| | | Race/ethnicity | | | | | | | | Sex | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | All | White | Black | Mexican American | Puerto Rican | Other Hispanic | Asian American | American Indian | Other | Male | Female |
| 1972 | 453 | — | — | — | — | — | — | — | — | 454 | 452 |
| 1973 | 445 | — | — | — | — | — | — | — | — | 446 | 443 |
| 1974 | 444 | — | — | — | — | — | — | — | — | 447 | 442 |
| 1975 | 434 | — | — | — | — | — | — | — | — | 437 | 431 |
| 1976 | 431 | 451 | 332 | 371 | 364 | — | 414 | 388 | 410 | 433 | 430 |
| 1977 | 429 | 448 | 330 | 370 | 355 | — | 405 | 390 | 402 | 431 | 427 |
| 1978 | 429 | 446 | 332 | 370 | 349 | — | 401 | 387 | 399 | 433 | 425 |
| 1979 | 427 | 444 | 330 | 370 | 345 | — | 396 | 386 | 393 | 431 | 423 |
| 1980 | 424 | 442 | 330 | 372 | 350 | — | 396 | 390 | 394 | 428 | 420 |
| 1981 | 424 | 442 | 332 | 373 | 353 | — | 397 | 391 | 388 | 430 | 418 |
| 1982 | 426 | 444 | 341 | 377 | 360 | — | 398 | 388 | 392 | 431 | 421 |
| 1983 | 425 | 443 | 339 | 375 | 358 | — | 395 | 388 | 386 | 430 | 420 |
| 1984 | 426 | 445 | 342 | 376 | 358 | — | 398 | 390 | 388 | 433 | 420 |
| 1985 | 431 | 449 | 346 | 382 | 368 | — | 404 | 392 | 391 | 437 | 425 |
| 1986 | 431 | — | — | — | — | — | — | — | — | 437 | 426 |
| 1987 | 430 | 447 | 351 | 379 | 360 | 387 | 405 | 393 | 405 | 435 | 425 |
| 1988 | 428 | 445 | 353 | 382 | 355 | 387 | 408 | 393 | 410 | 435 | 422 |
| 1989 | 427 | 446 | 351 | 381 | 360 | 389 | 409 | 384 | 414 | 434 | 421 |
| 1990 | 424 | 442 | 352 | 380 | 359 | 383 | 410 | 388 | 410 | 429 | 419 |
| 1991 | 422 | 441 | 351 | 377 | 361 | 382 | 411 | 393 | 411 | 426 | 418 |
| 1992 | 423 | 442 | 352 | 372 | 366 | 383 | 413 | 395 | 417 | 428 | 419 |

— Not available.

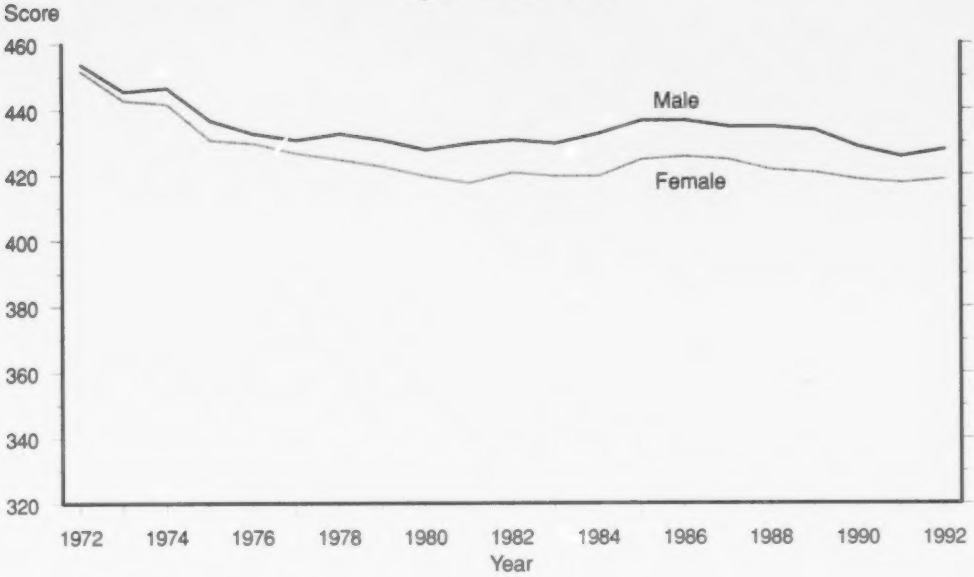
NOTE: See the supplemental note to *Indicator 18* for information on interpreting SAT scores.

* Mathematics scores are reported in supplemental table 18-3.

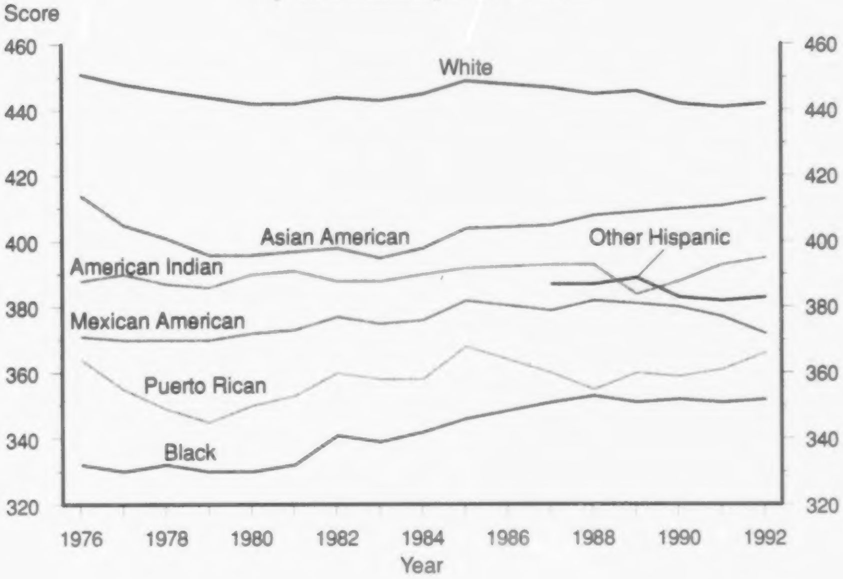
SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972-1992 (Copyright © 1992 by College Entrance Examination Board. All rights reserved.) .

## Trends in verbal SAT scores

**By sex: 1972–1992**



**By race/ethnicity: 1976–1992**



NOTE: SAT verbal scores range from 200 to 800.
SOURCE: The College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright © 1992 by College Entrance Examination Board. All rights reserved.).

## Graduate Record Examination (GRE) scores

- **The average total score on the GRE fell 70 points between 1965 and 1979. Between 1979 and 1990, it increased 55 points.**
- **The average GRE quantitative score has risen 53 points since 1975, and in 1990 was the highest it had been over the last three decades. The verbal score has risen 14 points since 1982, but is still well below the levels of the mid-1960s.**
- **The percentage of test-takers who are not U.S. citizens has been increasing (supplemental table 19-2.) Non-U.S. citizens do better on the quantitative component but worse on the verbal component (and total score) of the GRE than U.S. citizens (supplemental table 19-3).**

*The Graduate Record Examination (GRE) is a measure of the general learned abilities of prospective graduate students. The GRE is taken by less than a third of college graduates, but since there is no present method to assess learning at the college level, the GRE is, by default, the best broad-based measure of general learned abilities that exists for prospective graduate students. However, the reader should be aware of the limitations of average GRE scores which include: (1) the proportion of college graduates taking the exam changes over time; (2) an increasing proportion of foreign students taking the exam; and (3) the average scores include some students who take the exam more than once.*

### Graduate Record Examination (GRE) scores and number of test-takers: Selected academic years ending 1965–1992

| | GRE test-takers | | | GRE scores | | |
|---|---|---|---|---|---|---|
| Academic year ending | Number | As percent of BAs [1] | Percent U.S. citizens | Total | Verbal | Quantitative |
| 1965 | 93,792 | 18.7 | – | 1,063 | 530 | 533 |
| 1967 | 151,134 | 27.0 | – | 1,047 | 519 | 528 |
| 1969 | 206,113 | 28.3 | – | 1,039 | 515 | 524 |
| 1971 | 293,600 | 35.0 | – | 1,009 | 497 | 512 |
| 1973 | 290,104 | 31.5 | – | 1,009 | 497 | 512 |
| 1975 | 298,335 | 32.3 | – | 1,001 | 493 | 508 |
| 1976 | 299,292 | 32.3 | 92.5 | 1,002 | 492 | 510 |
| 1977 | 287,715 | 31.3 | 91.3 | 1,004 | 490 | 514 |
| 1978 | 286,383 | 31.1 | [2] 89.1 | 1,002 | 484 | 518 |
| 1979 | 282,482 | 30.7 | 90.0 | 993 | 476 | 517 |
| 1980 | 272,281 | 29.3 | 89.3 | 996 | 474 | 522 |
| 1981 | 262,855 | 28.1 | 86.8 | 996 | 473 | 523 |
| 1982 | 256,381 | 26.9 | 86.7 | 1,002 | 469 | 533 |
| 1983 | 263,674 | 27.2 | 86.1 | 1,014 | 473 | 541 |
| 1984 | 265,221 | 27.2 | 85.9 | 1,016 | 475 | 541 |
| 1985 | 271,972 | 27.8 | 84.9 | 1,019 | 474 | 545 |
| 1986 | 279,428 | 28.3 | 84.5 | 1,027 | 475 | 552 |
| 1987 | 293,560 | 29.6 | 84.2 | 1,027 | 477 | 550 |
| 1988 | 303,703 | 30.5 | [2] 79.5 | 1,040 | 483 | 557 |
| 1989 | 326,096 | [2] 32.0 | – | 1,044 | 484 | 560 |
| 1990 | 344,572 | [2] 33.0 | – | 1,048 | 486 | 562 |
| 1991 | 379,882 | [3] 35.7 | – | 1,047 | 485 | 562 |
| 1992 | 411,528 | [3] 37.2 | – | 1,044 | 483 | 561 |

– Not available.

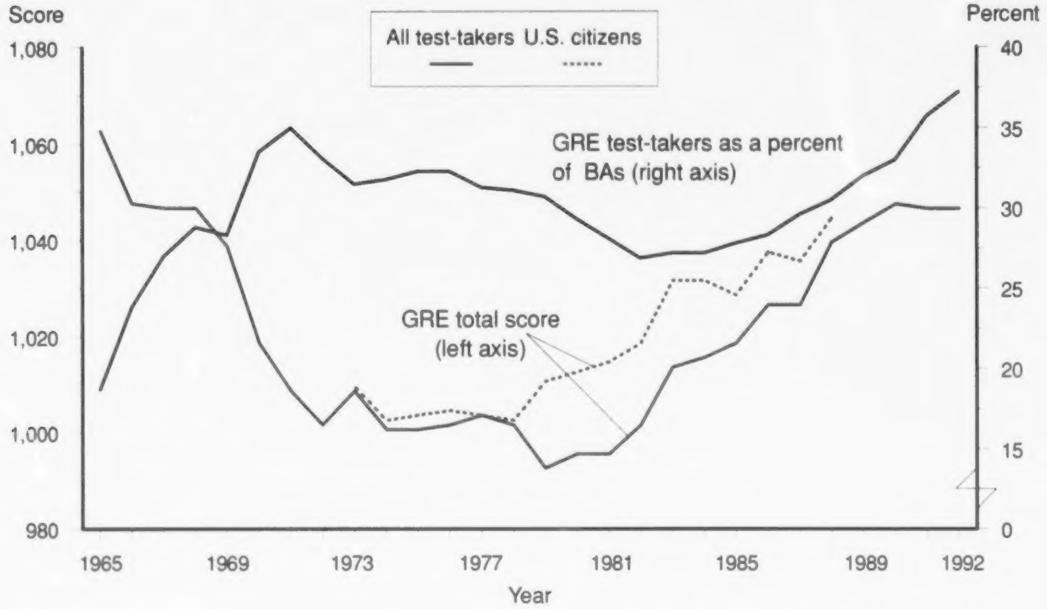
[1] Ratio of the number of GRE test-takers to the number of baccalaureate degrees awarded expressed as a percentage.

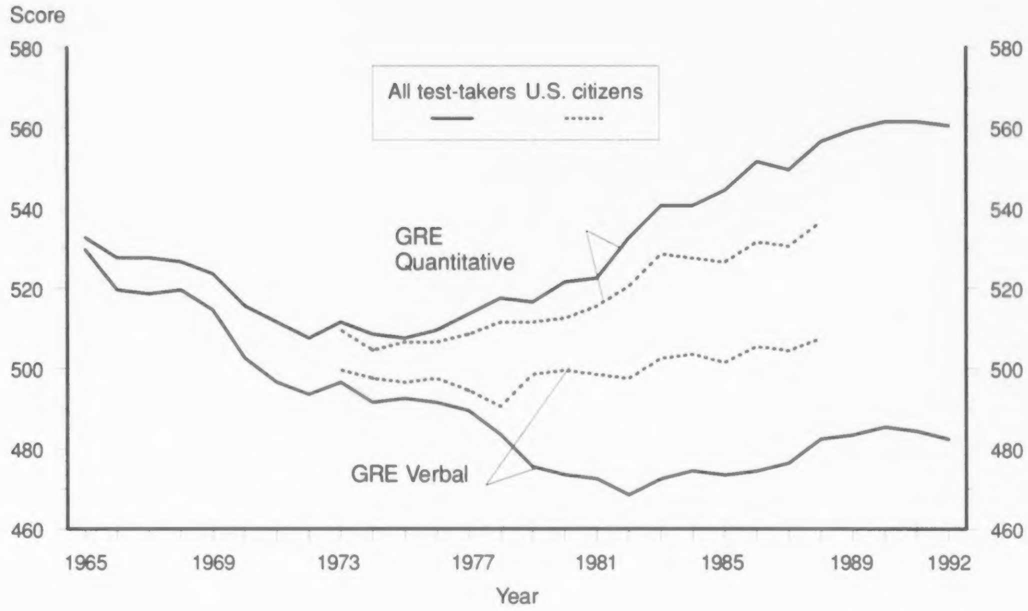
[2] Revised from previously published figures.

[3] Estimated.

SOURCE: Educational Testing Service and U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Graduate Record Examination (GRE) scores and number of test-takers as a percentage of baccalaureate degrees: Academic years ending 1965–1992





NOTE: GRE verbal and quantitative scores each range from 200 to 800. Total GRE scores range from 400 to 1600.
SOURCE: Educational Testing Service and U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## High school dropout, completion, and enrollment rates

> *One important measure of this nation's success in education is the proportion of its youth completing high school. Possession of a high school diploma or its equivalent signifies that an individual should have sufficient knowledge and skills to function productively in society. Dropping out of school indicates that an individual is likely to lack these prerequisites and is at a relative disadvantage.*

- **Over the 1972 to 1991 period, the percentage of 19- to 20-year-olds who had not completed high school and were not enrolled in school declined somewhat, whereas, the percentage still enrolled in school increased somewhat. The percentage who had completed high school changed very little.**
- **High school completion rates for white 19- to 20-year-olds in 1991 were higher than rates for blacks, which in turn were higher than Hispanic rates.**
- **Dropout rates are strongly associated with family income. In 1991, only 3 percent of 19- to 20-year-olds in high income families were high school dropouts compared to 14 percent of those in middle income families and 30 percent of those in low income families (supplemental table 20-3).**

**High school dropout, completion, and enrollment rates for 19- to 20-year-olds: 1972–1991**

| | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Total* | White | Black | Hispanic | Total* | White | Black | Hispanic | Total* | White | Black | Hispanic |
| 1972 | 16.1 | 13.1 | 26.8 | 38.0 | 80.7 | 84.7 | 66.3 | 55.4 | 3.2 | 2.2 | 6.9 | 6.6 |
| 1973 | 15.3 | 12.2 | 25.8 | 39.6 | 82.2 | 85.9 | 68.2 | 54.7 | 2.5 | 1.9 | 5.9 | 5.6 |
| 1974 | 16.4 | 13.8 | 24.8 | 32.6 | 80.6 | 84.6 | 65.6 | 58.8 | 2.9 | 1.5 | 9.5 | 8.6 |
| 1975 | 16.2 | 13.5 | 26.4 | 31.7 | 81.0 | 84.7 | 66.0 | 62.6 | 2.8 | 1.8 | 7.5 | 5.7 |
| 1976 | 15.9 | 13.2 | 24.1 | 34.8 | 81.1 | 85.2 | 67.6 | 57.3 | 3.0 | 1.7 | 8.3 | 7.9 |
| 1977 | 15.7 | 13.3 | 22.0 | 34.6 | 81.4 | 84.9 | 69.1 | 60.0 | 2.9 | 1.7 | 8.8 | 5.4 |
| 1978 | 16.0 | 12.8 | 24.9 | 38.1 | 80.9 | 85.2 | 67.1 | 56.0 | 3.1 | 1.9 | 8.1 | 5.8 |
| 1979 | 16.7 | 13.8 | 26.7 | 35.2 | 80.4 | 83.8 | 68.5 | 59.8 | 2.9 | 2.3 | 4.8 | 5.0 |
| 1980 | 16.4 | 12.7 | 23.5 | 44.1 | 81.1 | 85.6 | 71.0 | 51.3 | 2.5 | 1.8 | 5.4 | 4.7 |
| 1981 | 15.8 | 12.9 | 21.1 | 36.1 | 80.8 | 84.8 | 71.8 | 56.8 | 3.4 | 2.3 | 7.1 | 7.2 |
| 1982 | 16.3 | 13.4 | 23.0 | 34.9 | 80.6 | 84.7 | 69.4 | 58.8 | 3.1 | 1.9 | 7.6 | 6.3 |
| 1983 | 15.2 | 12.2 | 21.3 | 34.1 | 81.2 | 85.2 | 73.2 | 57.9 | 3.6 | 2.6 | 5.5 | 8.0 |
| 1984 | 15.0 | 12.8 | 18.1 | 30.6 | 82.0 | 85.4 | 75.3 | 63.0 | 3.1 | 1.9 | 6.5 | 6.3 |
| 1985 | 13.6 | 11.1 | 18.7 | 28.8 | 83.1 | 87.0 | 73.8 | 64.8 | 3.3 | 2.0 | 7.5 | 6.3 |
| 1986 | 12.9 | 10.2 | 17.6 | 28.3 | 83.8 | 87.8 | 75.0 | 65.8 | 3.3 | 2.0 | 7.5 | 5.9 |
| 1987 | 13.9 | 11.4 | 15.5 | 30.2 | 82.9 | 86.4 | 79.3 | 63.7 | 3.2 | 2.2 | 5.1 | 6.1 |
| 1988 | 14.9 | 10.8 | 20.2 | 40.9 | 82.1 | 87.1 | 73.5 | 53.6 | 3.0 | 2.1 | 6.2 | 5.5 |
| 1989 | 15.1 | 11.6 | 18.6 | 34.2 | 81.8 | 86.8 | 74.8 | 59.4 | 3.2 | 1.6 | 6.6 | 6.5 |
| 1990 | 13.6 | 10.4 | 15.6 | 34.0 | 82.8 | 87.3 | 77.6 | 59.7 | 3.5 | 2.3 | 6.8 | 6.3 |
| 1991 | 14.3 | 10.7 | 16.9 | 35.9 | 81.4 | 87.0 | 72.5 | 55.4 | 4.3 | 2.4 | 10.5 | 8.7 |

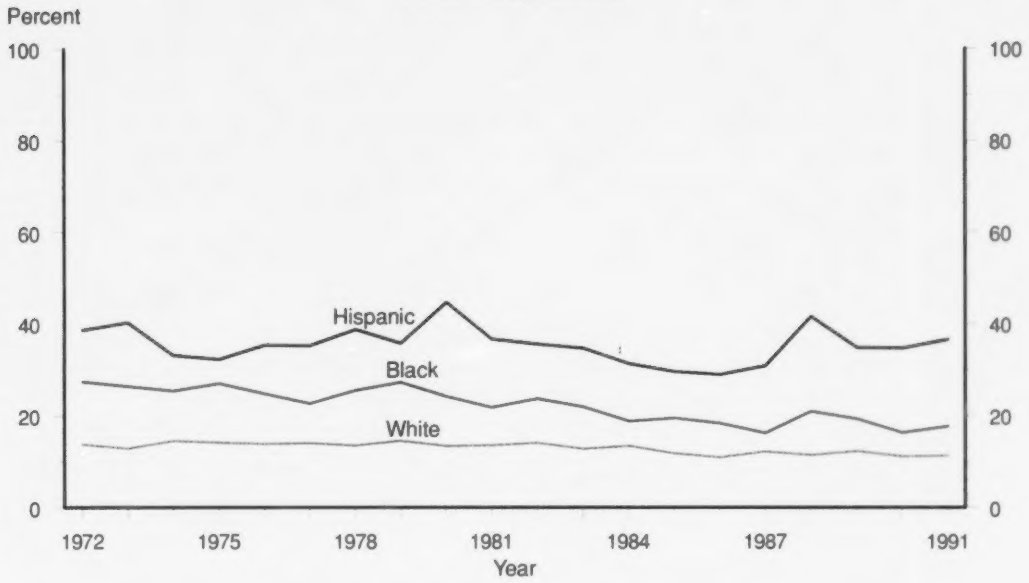
* Included in the total are individuals who are not Hispanic, white or black; most of these individuals are Asian and some are American Indian.

NOTE: The status dropout rate is the percentage of 19- to 20-year-olds who had not completed high school and were not currently enrolled in school. The high school completion rates is the percentage of individuals 19 to 20 years old who had completed 12 or more years of school. The high school enrollment rate is the percentage of 19- to 20-year-olds who were enrolled in school below the college level. The 3 rates sum to 100 percent. Data for 1987 through 1991 reflect new editing procedures instituted by the Bureau of the Census in 1986 for cases with missing data on school enrollment items.

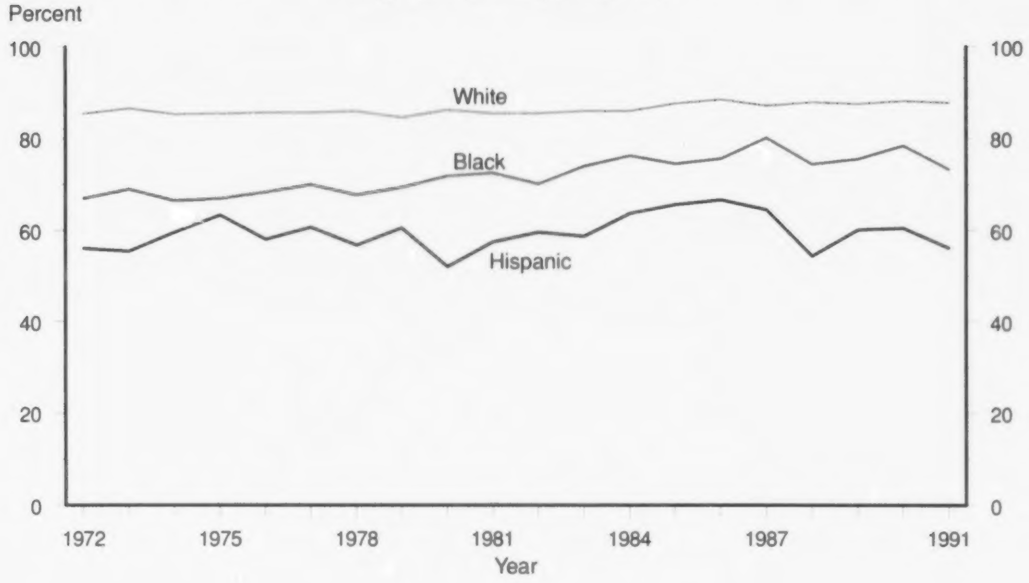
SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## High school dropout and completion rates for 19- to 20-year-olds, by race/ethnicity: 1972–1991

### Status dropout rate



### High school completion rate



NOTE: The status dropout rate is the percentage of 19- to 20-year-olds who had not completed high school and were not currently enrolled in school.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Educational attainment of Hispanics, by recency of migration

- **In 1989, a greater percentage of Hispanics than non-Hispanics aged 16 to 24 were born outside the 50 states and D.C. (supplemental table 21-2). Among this group of Hispanics, the dropout rate (43 percent) was higher than it was among first and second generation Hispanics (17 and 24 percent, respectively). First and second generation Hispanics were more than twice as likely to drop out as similar non-Hispanics.**

*As a whole, Hispanics drop out of high school at higher rates and attain lower levels of education than other non-Hispanics. The relative recency of migration among Hispanics may at least partially account for this trend. Evidence of undereducation has implications for developing retention strategies as well as for assessing the educational and training needs of the population.*

- **In 1989, the percentage of 25- to 34-year-olds who had not completed high school was slightly lower than in 1979. However, the gaps in high school non-completion rates between those born outside the 50 states and D.C., first generation, and second generation Hispanics on the one hand and comparable non-Hispanics on the other were generally similar in 1979 and 1989.**

### Percentage of 16- to 24-year-olds who were not enrolled in school and had not completed high school, by recency of migration and race/ethnicity: November 1989

| | | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| Recency of migration | Total | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| Total | 12.5 | 31.0 | 32.1 | 35.8 | 17.7 | 10.3 | 9.6 | 14.1 | 6.9 |
| Born outside 50 states and D.C. | 28.9 | 43.0 | 45.7 | 55.3 | 19.5 | 7.9 | 6.3 | 10.7 | 8.4 |
| First generation | 10.4 | 17.3 | 24.9 | 18.8 | 5.9 | 6.2 | 6.0 | 14.5 | 2.9 |
| Second generation | 11.2 | 23.7 | ([1]) | 23.5 | 23.7 | 10.7 | 9.9 | 14.6 | 4.5 |

### Percentage of 25- to 34-year-olds who had not completed high school by recency of migration and race/ethnicity: November 1979 and 1989

| | | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year and recency of migration | Total | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| 1979 | | | | | | | | | |
| Total[2] | 14.9 | 45.4 | 54.6 | 51.2 | 24.6 | 13.0 | 11.5 | 24.1 | — |
| Born outside 50 states and D.C. | 34.4 | 59.9 | 62.5 | 74.8 | 30.6 | 16.1 | 18.6 | 15.3 | — |
| First generation | 12.3 | 30.8 | 33.5 | 35.3 | 4.3 | 8.2 | 7.8 | 18.1 | — |
| Second generation | 13.5 | 29.9 | 39.2 | 32.8 | 18.3 | 13.1 | 11.5 | 24.4 | — |
| 1989 | | | | | | | | | |
| Total[2] | 13.1 | 39.1 | 31.6 | 45.9 | 27.6 | 10.5 | 9.1 | 18.9 | 10.5 |
| Born outside 50 states and D.C. | 31.8 | 51.8 | 37.7 | 69.9 | 28.6 | 11.5 | 10.2 | 14.2 | 12.3 |
| First generation | 10.5 | 25.3 | 23.8 | 25.2 | 28.5 | 4.5 | 4.0 | 8.9 | 5.9 |
| Second generation | 11.2 | 23.0 | 21.0 | 23.7 | 19.7 | 10.8 | 9.4 | 19.3 | 3.9 |

— Not available.

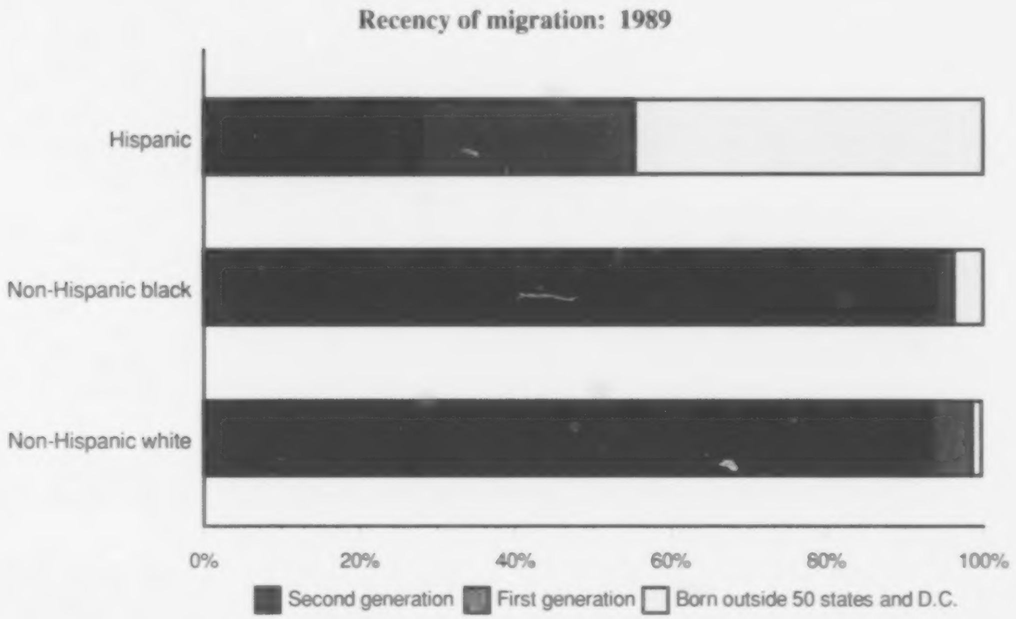
[1] Too few sample observations for a reliable estimate.

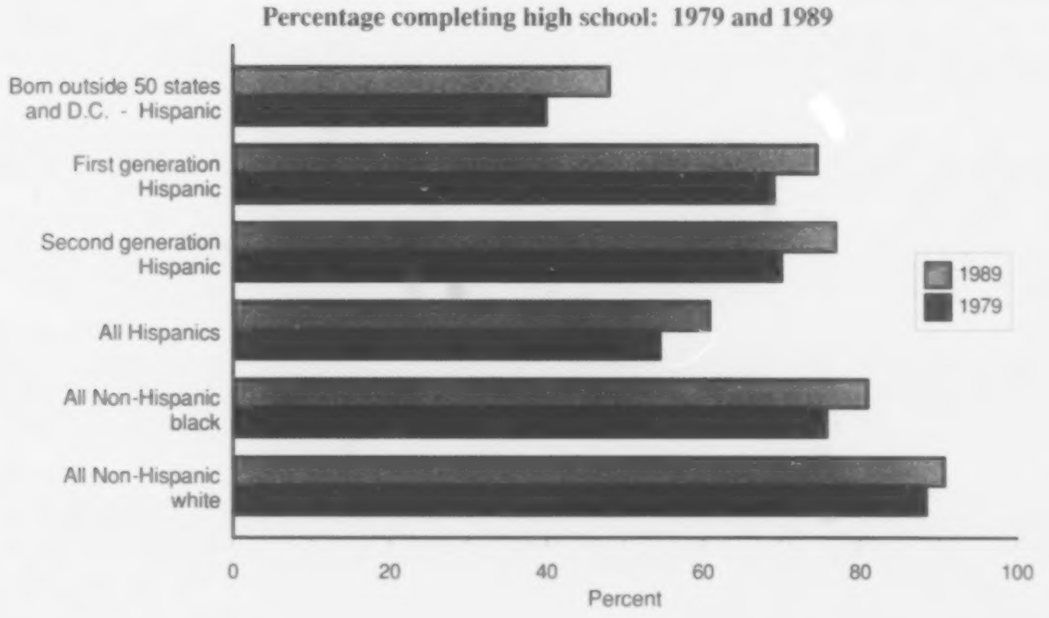
[2] Total includes a small proportion for whom recency of migration is unknown.

NOTE: School enrollment data are not available for November, 1979. People born in Puerto Rico and the U.S. territories are grouped with those born in other countries. Individuals are classified as first generation if they were born in the U.S. but at least one of their parents was not born in the U.S. Second generation includes those who were born in the U.S. and both of their parents were born in the U.S.

SOURCE: U.S. Department of Commerce, Bureau of the Census, November Current Population Surveys, 1979 and 1989.

## Recency of migration and educational attainment, by race/ethnicity: 1979 and 1989





SOURCE: U.S. Department of Commerce, Bureau of the Census, November Current Population Surveys, 1979 and 1989.

## Educational attainment

- **In 1992, 24 percent of 25- to 29-year-olds had a bachelor's degree. This rate varied from 11 percent for Hispanics and blacks to 27 percent for whites.**
- **Among whites 25–29 years old, 52 percent had attended some college and about half of these (27 percent) had a bachelor's degree. Among blacks 35 percent had attended some college and about a third of these (11 percent) had a bachelor's degree. For Hispanics the percentages were similar to those for blacks.**
- **For those 40 and older, a higher percentage of men than women had completed a bachelor's degree. Among those under 40, however, the percentages were similar for men and women.**
- **In 1992, 87 percent of 25- to 29-year-olds were high school graduates. However, this rate varied from 64 percent for Hispanics to 91 percent for whites.**

> *Completing 4 years of college is an important educational accomplishment that will yield many benefits to those who achieve it. It represents the end-result of both starting college and persistent enrollment. Some students stop out, others drop out, but the vast majority of those who will ever complete 4 years of college do so by their late twenties.*

**Percentage of the population who have attained various levels of education, by race/ethnicity, sex, and age: March 1992**

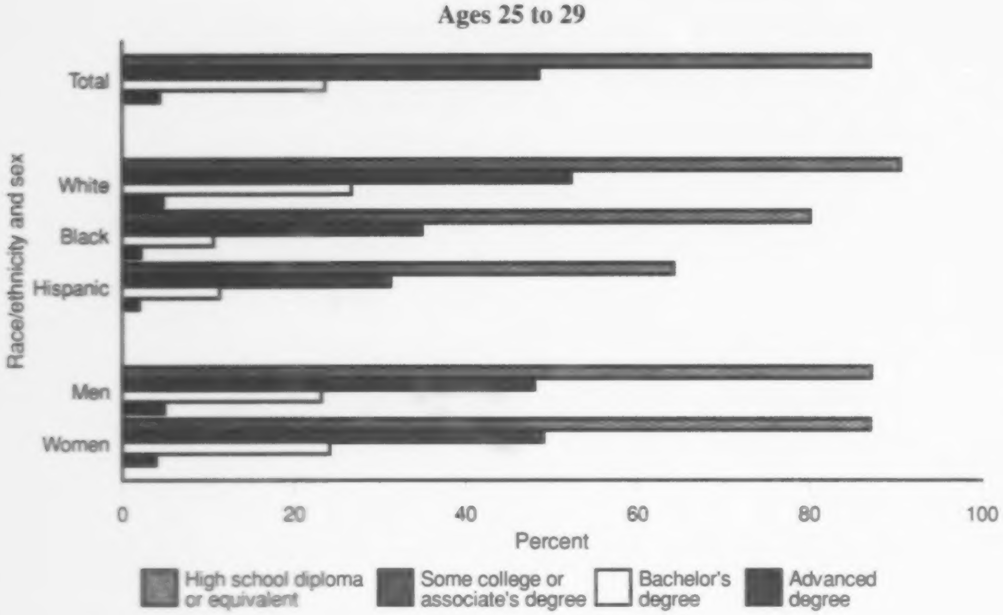
| | High school diploma or equivalency certificate | | | | | | Some college or associate's degree | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total | White | Black | Hispanic | Men | Women | Total | White | Black | Hispanic | Men | Women |
| 20-24 | 86.2 | 89.8 | 79.0 | 65.9 | 85.5 | 86.8 | 51.7 | 55.8 | 35.7 | 34.6 | 50.4 | 52.5 |
| 25-29 | 87.1 | 90.6 | 80.1 | 64.2 | 87.2 | 87.0 | 48.6 | 52.3 | 34.9 | 31.3 | 48.0 | 49.1 |
| 30-34 | 87.5 | 90.7 | 81.9 | 61.9 | 86.5 | 88.6 | 48.1 | 50.8 | 38.0 | 31.6 | 45.8 | 50.4 |
| 35-39 | 88.5 | 91.8 | 80.2 | 63.9 | 88.1 | 89.0 | 51.3 | 54.6 | 39.0 | 31.7 | 51.4 | 51.3 |
| 40-44 | 89.0 | 92.1 | 80.3 | 63.6 | 89.0 | 88.9 | 55.4 | 58.4 | 43.2 | 32.8 | 58.4 | 52.5 |
| 45-49 | 85.6 | 89.3 | 71.1 | 59.2 | 85.1 | 86.1 | 48.5 | 51.5 | 35.2 | 26.4 | 51.5 | 45.7 |
| 50-54 | 79.3 | 83.3 | 63.3 | 51.4 | 79.5 | 79.2 | 39.8 | 42.5 | 26.8 | 23.8 | 44.6 | 35.5 |
| 55-59 | 75.0 | 79.2 | 56.5 | 46.3 | 74.4 | 75.4 | 36.1 | 38.4 | 24.3 | 19.2 | 40.5 | 32.1 |
| 60-64 | 70.1 | 75.5 | 39.0 | 39.2 | 68.2 | 71.8 | 30.9 | 34.0 | 12.9 | 13.3 | 35.6 | 26.8 |

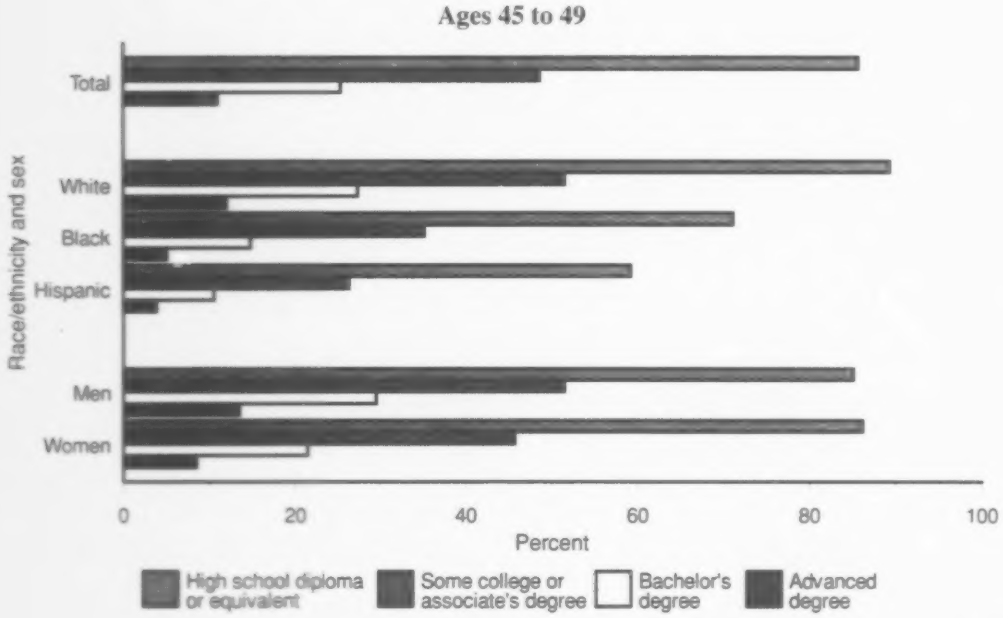
| | Bachelor's degree | | | | | | Advanced degree | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total | White | Black | Hispanic | Men | Women | Total | White | Black | Hispanic | Men | Women |
| 20-24 | — | — | — | — | — | — | — | — | — | — | — | — |
| 25-29 | 23.7 | 26.7 | 10.6 | 11.4 | 23.2 | 24.2 | 4.4 | 4.8 | 2.2 | 2.0 | 4.9 | 3.9 |
| 30-34 | 22.6 | 24.6 | 12.7 | 11.1 | 22.7 | 22.6 | 6.2 | 6.7 | 2.1 | 3.9 | 6.8 | 5.5 |
| 35-39 | 25.3 | 27.2 | 15.9 | 13.4 | 26.2 | 24.4 | 8.3 | 9.0 | 5.1 | 4.7 | 9.3 | 7.5 |
| 40-44 | 28.2 | 30.5 | 17.4 | 12.3 | 30.8 | 25.7 | 10.9 | 11.8 | 6.2 | 5.2 | 12.4 | 9.6 |
| 45-49 | 25.4 | 27.3 | 14.9 | 10.6 | 29.6 | 21.5 | 11.0 | 12.0 | 5.1 | 3.9 | 13.5 | 8.5 |
| 50-54 | 21.1 | 22.9 | 11.1 | 10.8 | 26.1 | 16.5 | 9.2 | 10.1 | 3.9 | 3.0 | 12.0 | 6.5 |
| 55-59 | 18.0 | 19.2 | 10.4 | 9.0 | 23.0 | 13.5 | 8.0 | 8.5 | 3.4 | 4.0 | 10.9 | 5.4 |
| 60-64 | 15.8 | 17.7 | 4.2 | 6.3 | 20.7 | 11.4 | 6.0 | 6.8 | 1.7 | 3.1 | 8.6 | 3.8 |

— Age group is too young for a meaningful estimate of attainment at this level.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Percentage of the population who have attained various levels of education, by race/ethnicity, sex, and age: March 1992





SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## International comparisons of educational attainment, by age

- **Compared to other large industrialized countries, the United States has the most educated population. A similar or higher percentage of 25- to 64-year-olds in the United States has completed secondary school and college than in Japan, Germany, the United Kingdom, France, Italy, or Canada.**
- **In Japan, Germany, and Canada, 25- to 34-year-olds have completed secondary education at rates similar to their counterparts in the United States.**
- **Young men in Japan were much more likely to have completed higher education than men in the other highly industrialized countries. Young men in the United States ranked second.**
- **Young women in the United States were much more likely to have completed higher education than women or men in other countries (with the exception of men in Japan).**

*The percentage of the population completing secondary and higher education in the United States and other highly industrialized countries provides an indication of the skill level of the U.S. workforce as compared to its economic competitors. Furthermore, contrasting the educational attainment of the general population to the attainment of younger age cohorts provides a means of comparing past and recent progress in the rate at which individuals complete high school or college.*

**Percentage of population in large industrialized countries who have completed secondary and higher education, by age, sex, and country: 1991**

| | 25-64 years old | | 25-34 years old | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Both sexes | | Both sexes | | Male | | Female | |
| Country | Secondary education | Higher education | Secondary education | Higher education | Secondary education | Higher education | Secondary education | Higher education |
| United States | 83.3 | 23.6 | 86.1 | 23.7 | 85.7 | 23.5 | 86.5 | 23.8 |
| Japan* | 69.7 | 13.3 | 90.6 | 22.9 | 89.3 | 34.2 | 91.8 | 11.5 |
| Germany | 81.8 | 11.2 | 89.3 | 11.5 | 91.7 | 12.7 | 86.7 | 10.3 |
| United Kingdom | 65.3 | 9.6 | 79.2 | 11.7 | 80.7 | 13.6 | 77.6 | 9.8 |
| France | 50.5 | 9.7 | 65.9 | 11.6 | 67.3 | 11.7 | 65.4 | 11.5 |
| Italy | 28.2 | 6.1 | 43.1 | 6.6 | 42.3 | 6.7 | 43.8 | 6.4 |
| Canada | 75.7 | 16.7 | 86.0 | 17.5 | 84.6 | 18.0 | 87.3 | 17.1 |

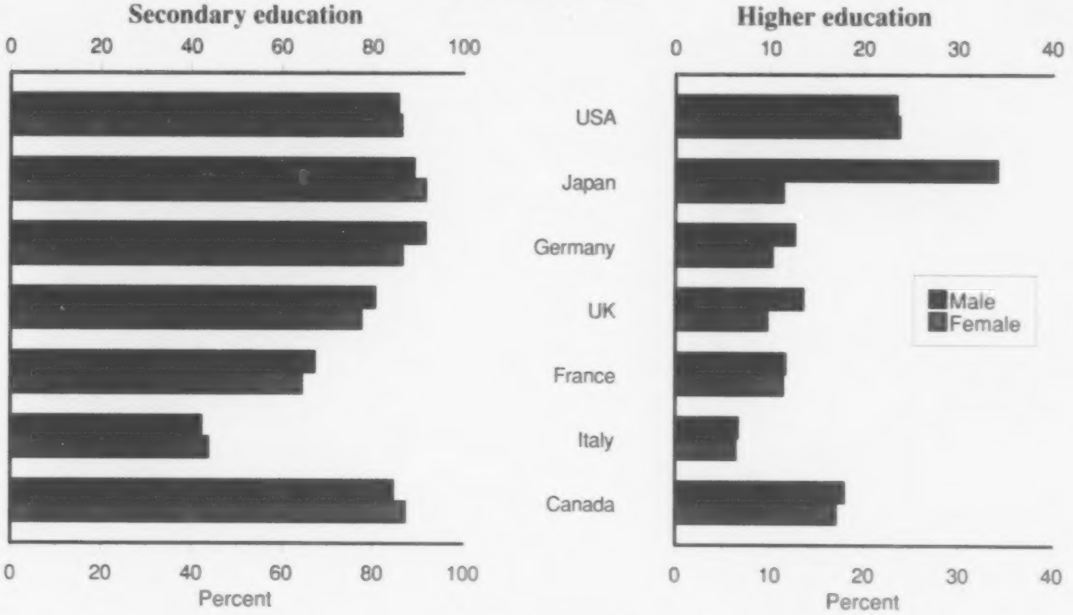
* 1989 data.

NOTE: In the United States, completing secondary education is defined as completing high school; completing higher education is defined as completing 4 or more years of college.

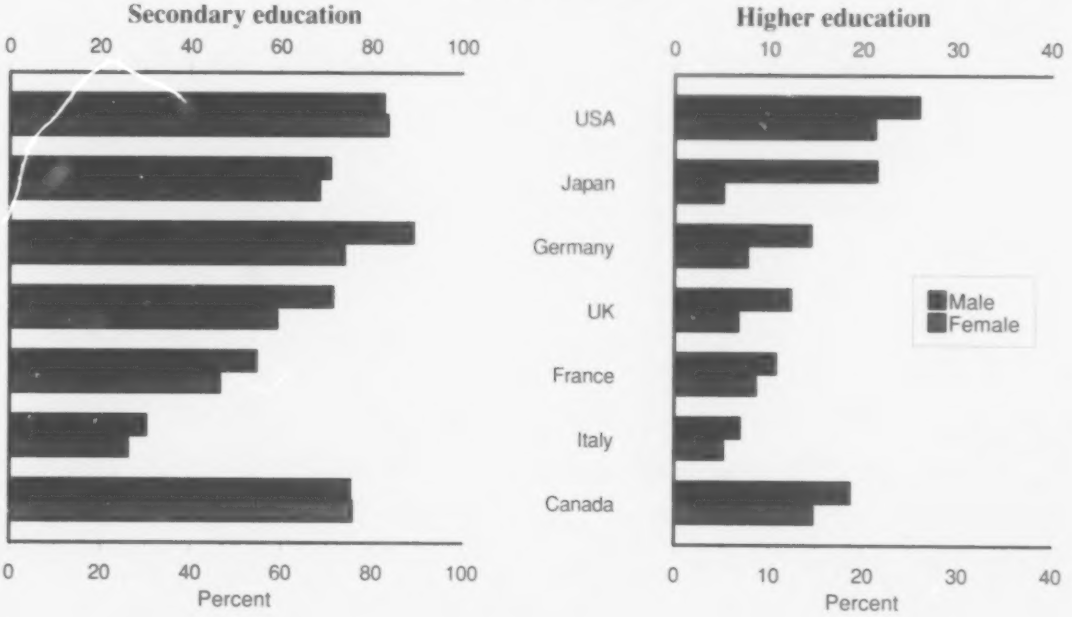
SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, International Indicators Project.

## Percentage of population completing secondary and higher education, by age, sex and country: 1991

25- to 34-year-olds



25- to 64-year-olds



NOTE: In the United States completing secondary education is defined as completing high school; completing higher education is defined as completing 4 or more years of college.

SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, International Indicators Project.

## Curriculum tracks in high school

*Student identification with a curriculum track is a strong predictor of educational attainment. However, it may not be a strong predictor of differences in the selection of a course of studies. Students are usually assigned to specific subjects or courses based on some combination of student choice, composite achievement measures, and/or teacher judgments.*

- **Between 1982 and 1990, the percentage of 17-year-olds reporting they were in an academic high school program increased, while the percentage in a general or vocational program decreased. This trend occurred among both sexes and among whites and blacks.**
- **In 1982, participation in an academic program was 9 percentage points higher among whites than among blacks; by 1990, the difference was only 5 percentage points. The percentage of Hispanics in an academic program in 1990 remained well below that of whites.**
- **In 1982, a higher percentage of males than females was in a vocational/technical program, but by 1990, as participation in vocational education for males declined, similar percentages of males and females reported being in a vocational/technical program.**
- **In 1990, 17-year-old students in public schools were much more likely to report being in a vocational/technical program and much less likely to report being in an academic program than were students in private schools (supplemental table 24-4).**

**Percentage of 17-year-olds reporting being in various high school programs, by sex: 1982, 1986, 1990**

| | Total | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 43.8 | 12.2 | 44.0 | 42.1 | 14.2 | 43.7 | 45.4 | 10.3 | 44.3 |
| 1986 | 51.6 | 10.3 | 38.2 | 50.4 | 12.2 | 37.4 | 52.7 | 8.4 | 39.0 |
| 1990 | 54.4 | 8.7 | 36.9 | 52.2 | 9.9 | 37.9 | 56.5 | 7.5 | 36.0 |

**Percentage of 17-year-olds reporting being in various high school programs, by race/ethnicity: 1982, 1986, 1990**

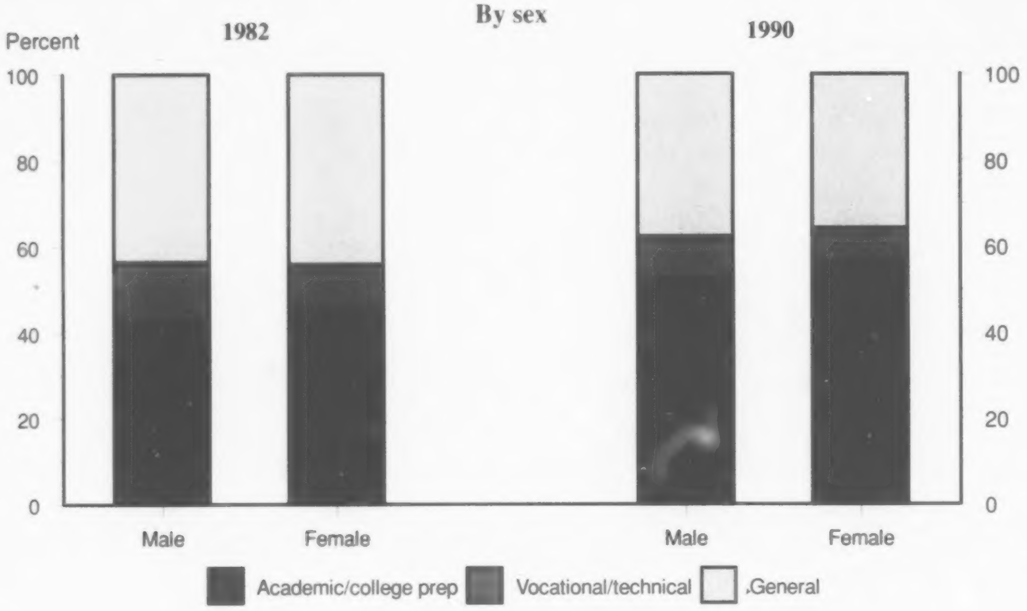
| | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 45.6 | 11.3 | 43.1 | 36.8 | 16.9 | 46.3 | 28.0 | 16.5 | 55.5 |
| 1986 | 55.1 | 8.6 | 36.2 | 38.0 | 17.9 | 44.1 | 35.9 | 14.2 | 50.0 |
| 1990 | 56.0 | 7.3 | 36.7 | 51.3 | 14.9 | 33.9 | 43.0 | 11.4 | 45.6 |

NOTE: As part of the National Assessment of Educational Progress mathematics background questionnaire, respondents were asked: "Which best describes high school program: 1) General, 2) Academic/College prep, 3) Vocational/Technical?" The question was identical in each survey year.

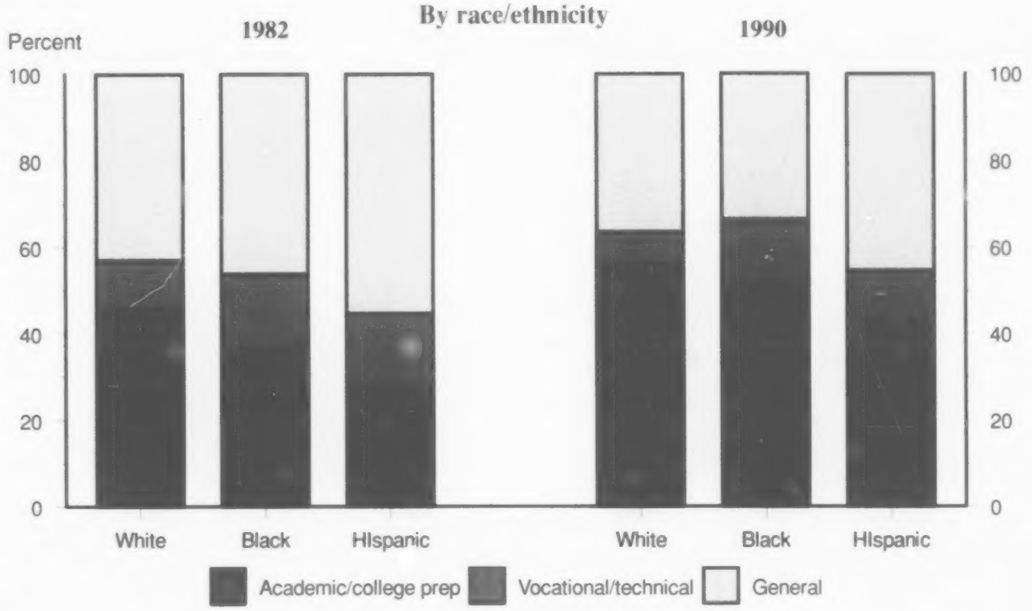
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, 1990.

**Percentage of 17-year-olds reporting being in various curriculum tracks: 1982 and 1990**

By sex



By race/ethnicity



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982 and 1990.

## Mathematics and science course-taking patterns

- **More 1990 and 1987 high school graduates took math and science courses than 1982 graduates (both overall and in most specific subject areas).**
- **Overall, graduates in 1990 and 1987 were less likely to take remedial math than were graduates in 1982.**
- **More 1990 white, black, and Hispanic, male and female high school graduates took courses in algebra II and geometry and took courses in biology and chemistry than their 1982 counterparts. However, the gaps between white and minority graduates remained (supplemental tables 25-1 and 25-2).**
- **The largest gains in mathematics course taking between 1982 and 1990 graduates were in geometry, algebra II, and algebra I. The largest gains in science course taking were in biology, chemistry, and geology.**

*Courses in mathematics and science can challenge students to use higher level thinking skills, solve problems, and provide solutions. These skills have considerable value both in educational and marketplace settings. Analysis of course-taking patterns can indicate levels of exposure in these fields for individuals about to enter the workforce or advance to higher education.*

### Percentage of high school graduates taking selected mathematics and science courses: 1982, 1987, and 1990, and percentage change: 1982–1987 and 1987–1990

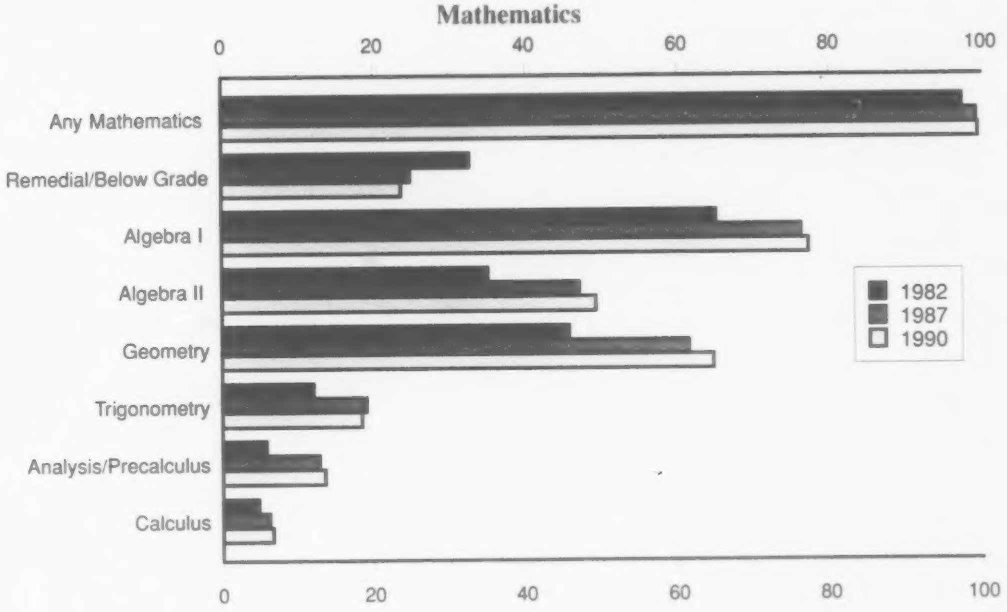
| Mathematics and science courses* | 1982 High School and Beyond Study | 1987 High School Transcript Study | 1990 High School Transcript Study | Percentage point change 1982–1987 | Percentage point change 1987–1990 |
|---|---|---|---|---|---|
| Mathematics | | | | | |
| Any mathematics | 97.5 | 99.4 | 99.6 | 1.9 | 0.2 |
| Remedial/below grade | 32.7 | 24.9 | 23.6 | -7.8 | -1.3 |
| Algebra I | 65.1 | 76.3 | 77.3 | 11.2 | 1.0 |
| Algebra II | 35.1 | 47.1 | 49.2 | 12.0 | 2.1 |
| Geometry | 45.7 | 61.5 | 64.7 | 15.8 | 3.2 |
| Trigonometry | 12.0 | 19.0 | 18.4 | 7.0 | -0.7 |
| Analysis/pre-calculus | 5.8 | 12.8 | 13.5 | 7.0 | 0.7 |
| Calculus | 4.7 | 6.2 | 6.6 | 1.5 | 0.4 |
| Algebra II and geometry | 27.5 | 42.4 | 44.0 | 14.9 | 1.6 |
| Algebra II, geometry, trigonometry, and calculus | 1.0 | 2.4 | 2.2 | 1.4 | -0.8 |
| Science | | | | | |
| Any science | 95.2 | 98.7 | 99.4 | 3.5 | 0.7 |
| Biology | 75.3 | 88.3 | 91.6 | 13.1 | 3.3 |
| Chemistry | 30.8 | 44.8 | 49.6 | 13.9 | 4.9 |
| Physics | 13.9 | 19.5 | 21.5 | 5.6 | 2.0 |
| Geology | 13.9 | 14.9 | 25.3 | 1.0 | 10.5 |
| Biology and chemistry | 28.0 | 43.0 | 48.2 | 15.0 | 5.2 |
| Biology, chemistry, and physics | 10.5 | 16.8 | 18.9 | 6.3 | 2.1 |

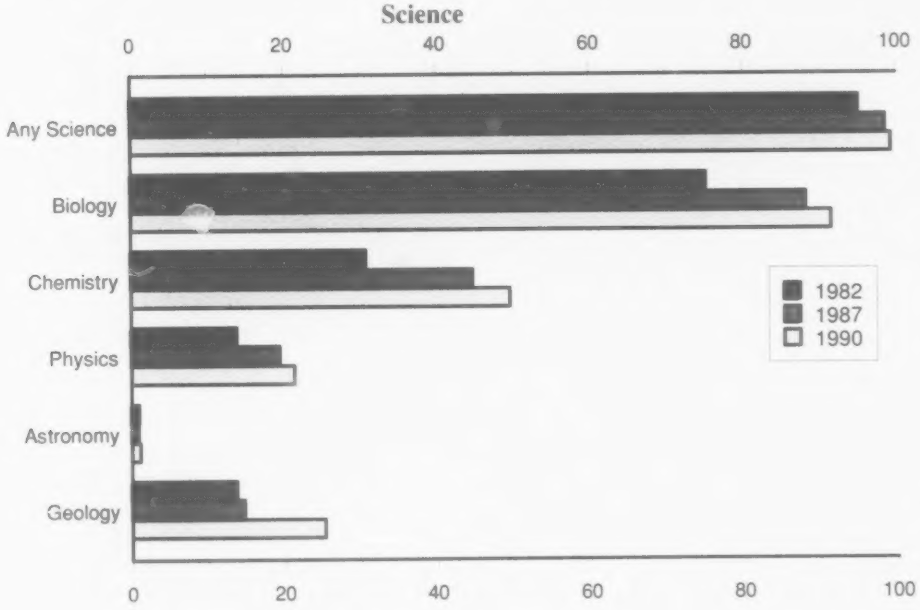
* The minimum number of units used for inclusion in this indicator was 1.00 for courses except for algebra II, trigonometry, analysis/pre-calculus, astronomy, and geology where 0.5 was set as the minimum number of credits.

NOTE: Percentages reflect only those courses taken in high school. Since some students take algebra I and other similar courses in eighth grade, these percentages could underestimate the number of individuals who have ever taken algebra I and similar subjects in school.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Percentage of high school graduates taking selected mathematics and science courses: 1982, 1987 and 1990





SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Course-taking in the core subject areas

- **Between 1982 and 1990, the percentage of all graduates earning the recommended units in core courses increased sharply, from 13 to 40 percent. This increase occurred among both sexes and all racial/ethnic groups.**
- **The percentage of black and Asian students earning recommended units in the core courses increased by 30 percentage points or more between 1982 and 1990; from 10 percent to 41 percent for blacks, and from 21 percent to 51 percent for Asians.**
- **Between 1982 and 1990, the percentage of graduates earning the recommended credits in core courses increased from 12 to 38 percent for public school graduates and from 25 to 56 percent for private school graduates.**

*In 1983,* A Nation At Risk *claimed that our society had "lost sight of the basic purpose of schooling, and of high expectations and disciplined effort needed to attain them." As a remedial step, the report asked that all students seeking a diploma should enroll in the "New Basics," a core curriculum composed of 4 units of English, 3 units of science, 3 units of social studies, 3 units of mathematics, and one-half year of computer science.* While the nation's school's have fallen short of this goal, they have made notable progress.*

**Percentage of high school graduates earning recommended* units in core courses in 1982, 1987, and 1990, and percentage point change in core courses taken: 1982–1987 and 1987–1990**

| | 1982 | 1987 | 1990 | Change 1982-1987 | Change 1987-1990 |
|---|---|---|---|---|---|
| Total | 13.4 | 28.6 | 39.8 | 15.2 | 11.2 |
| Sex | | | | | |
| Male | 12.6 | 27.2 | 39.1 | 14.7 | 11.9 |
| Female | 14.3 | 30.1 | 40.6 | 15.8 | 10.5 |
| Race/ethnicity | | | | | |
| White | 14.9 | 29.7 | 40.5 | 14.8 | 10.8 |
| Black | 10.1 | 24.4 | 41.1 | 14.2 | 16.8 |
| Hispanic | 6.3 | 17.9 | 32.7 | 11.6 | 14.8 |
| Asian | 21.0 | 48.3 | 51.0 | 27.3 | 2.8 |
| Other | 5.9 | 28.9 | 26.0 | 23.0 | -2.9 |
| Urbanicity | | | | | |
| Big city | — | 26.8 | 39.6 | — | 12.8 |
| Urban fringe | — | 31.3 | 42.7 | — | 11.4 |
| Medium city | — | 26.3 | 44.0 | — | 17.7 |
| Small place | — | 28.2 | 37.3 | — | 9.1 |
| Control of school | | | | | |
| Public | 12.1 | 27.1 | 38.1 | 15.1 | 11.0 |
| Private | 24.5 | 42.4 | 56.3 | 17.9 | 13.8 |

— Not available.

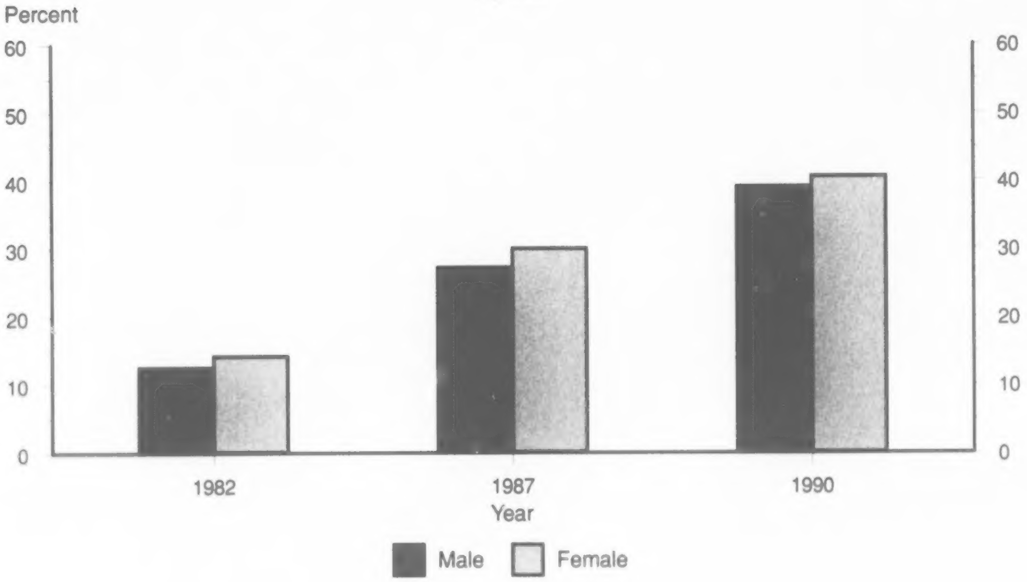
* The panel's recommendation of 0.5 units in computer science is not included in this table; however, it is included in supplemental tables 26-1 and 26-2.

NOTE: For a description of the sampling procedures and related issues for the High School and Beyond transcript study and the later transcript studies, see the supplemental note to indicator 25.

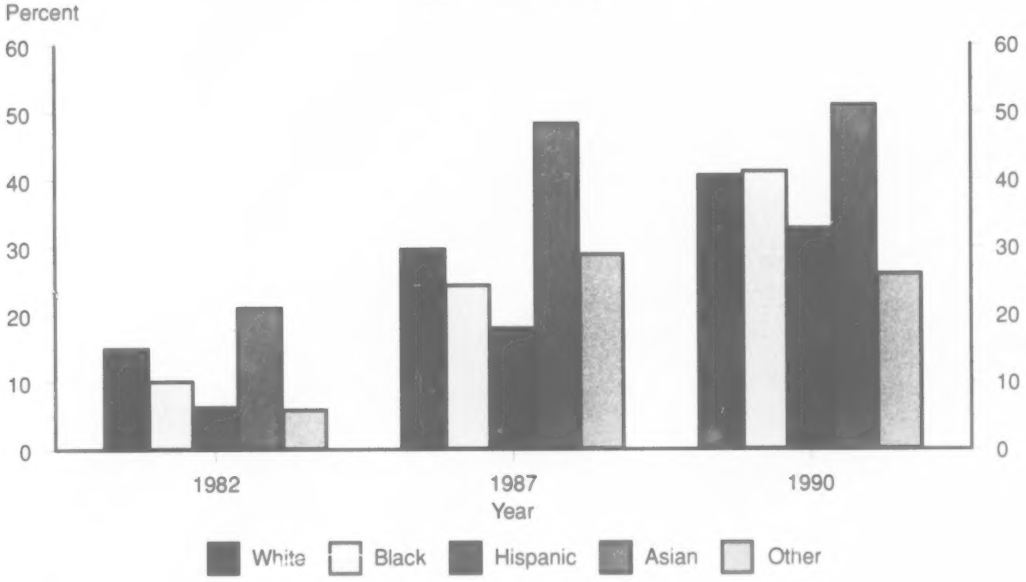
SOURCE: U.S. Department of Education, National Center for Education Statistics, The 1990 High School Transcript Study Tabulations, 1993.

**Percentage of high school graduates earning recommended units* in core courses: 1982, 1987, and 1990**

**By sex**



**By race/ethnicity**



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* Recommended by *A Nation At Risk*: 4 years of English, 3 years of science, 3 years of social studies, and 3 years of mathematics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Advanced Placement examination results

- **Between 1984 and 1992, the number of individuals participating in the Advanced Placement (AP) examination program increased dramatically for both males and females and all racial/ethnic groups.**
- **Generally, about two-thirds of all 11th and 12th grade AP examinations received a grade of 3 or higher. In most subject areas, Hispanics or blacks were less likely than whites or those of other races to receive a grade of 3 or higher.**
- **In 1992, females were more likely to take English and foreign language examinations than males, while males were somewhat more likely to take calculus and science examinations than females.**

*The Advanced Placement program is associated with a demanding academic curriculum and represents a desire of schools, colleges and universities to offer college-level courses in secondary school. Through an annual examination program open to all, high school students may acquire college credit for knowledge of college-level subjects.*

### Number of 11th and 12th grade Advanced Placement examinations taken and 11th and 12th graders scoring 3 or above per 1,000 11th and 12th graders, by subject area, and by sex and race/ethnicity: 1992

| | Number of examinations taken | | | | | | Number of students scoring 3 or above | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social studies | English | Foreign language | Calculus | Computer science | Science | Social studies | English | Foreign language | Calculus | Computer science | Science |
| Total | 24 | 23 | 7 | 14 | 1 | 13 | 15 | 15 | 5 | 10 | 1 | 9 |
| Sex | | | | | | | | | | | | |
| Male | 24 | 17 | 5 | 16 | 2 | 15 | 16 | 12 | 4 | 11 | 1 | 10 |
| Female | 25 | 28 | 9 | 13 | 1 | 11 | 14 | 19 | 7 | 8 | 0 | 6 |
| Race/ethnicity | | | | | | | | | | | | |
| White | 25 | 24 | 5 | 14 | 1 | 13 | 16 | 17 | 3 | 9 | 1 | 8 |
| Black | 6 | 6 | 1 | 3 | 0 | 3 | 2 | 2 | 1 | 1 | 0 | 1 |
| Hispanic | 11 | 10 | 18 | 5 | 1 | 4 | 5 | 5 | 16 | 3 | 0 | 2 |
| Other* | 62 | 49 | 17 | 58 | 6 | 56 | 39 | 33 | 11 | 43 | 4 | 39 |

* Includes individuals who are not Hispanic, black, or white; most are Asian and a few are American Indian.

NOTE: Grades of 3 and above are usually accepted for college credit. See the supplemental note on Advanced Placement examinations for a description of scaling procedures and for a discussion of the calculations for this indicator. See the footnotes to supplemental table 27- 1 for a description of AP course categories for this indicator. Since, on average, AP candidates take more than one examination (see table 27-3), there is not a 1:1 correspondence between candidates and examinations.

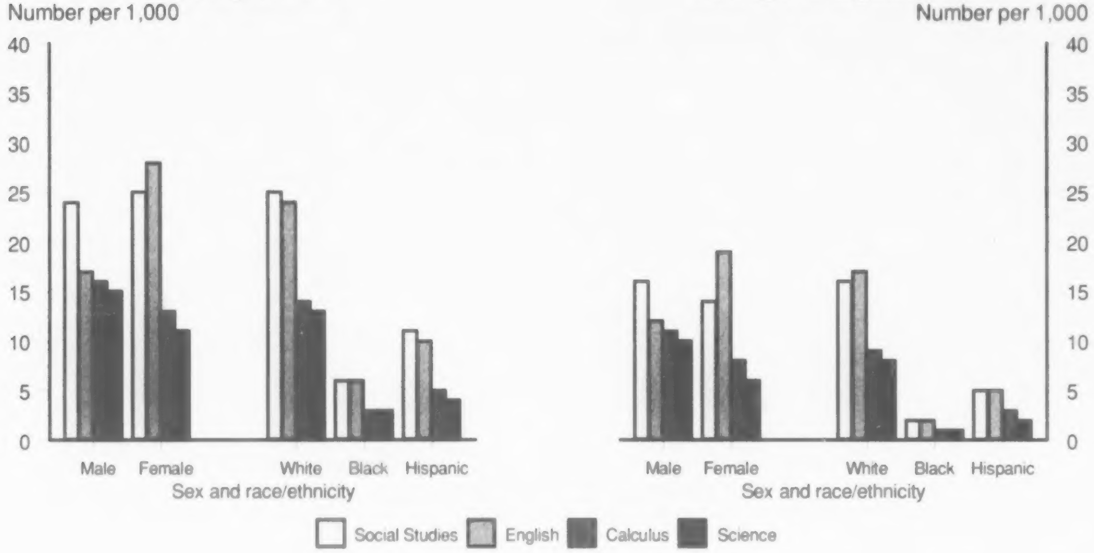
### Number of 11th and 12th grade students taking Advanced Placement examinations per 1000 11th and 12th graders, by sex and race/ethnicity: 1984–1992

| Year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 24 | 29 | 33 | 36 | 39 | 44 | 48 | 53 | 57 |
| Sex | | | | | | | | | |
| Male | 24 | 29 | 33 | 35 | 38 | 42 | 46 | 51 | 53 |
| Female | 25 | 29 | 33 | 37 | 40 | 47 | 51 | 56 | 62 |
| Race/ethnicity | | | | | | | | | |
| White | 23 | 29 | 32 | 34 | 40 | 45 | 48 | 54 | 58 |
| Black | 4 | 5 | 6 | 8 | 9 | 11 | 13 | 15 | 14 |
| Hispanic | 10 | 14 | 14 | 17 | 22 | 31 | 32 | 32 | 37 |
| Other* | 56 | 64 | 80 | 79 | 104 | 108 | 133 | 142 | 149 |

* Includes individuals who are not Hispanic, black, or white; most are Asian and a few are American Indian.

SOURCE: The College Board, Advanced Placement Program, National Summary Reports, 1984–1992, (Copyright © 1992 by College Entrance Examination Board. All rights reserved.), Educational Testing Service, unpublished tabulations, U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

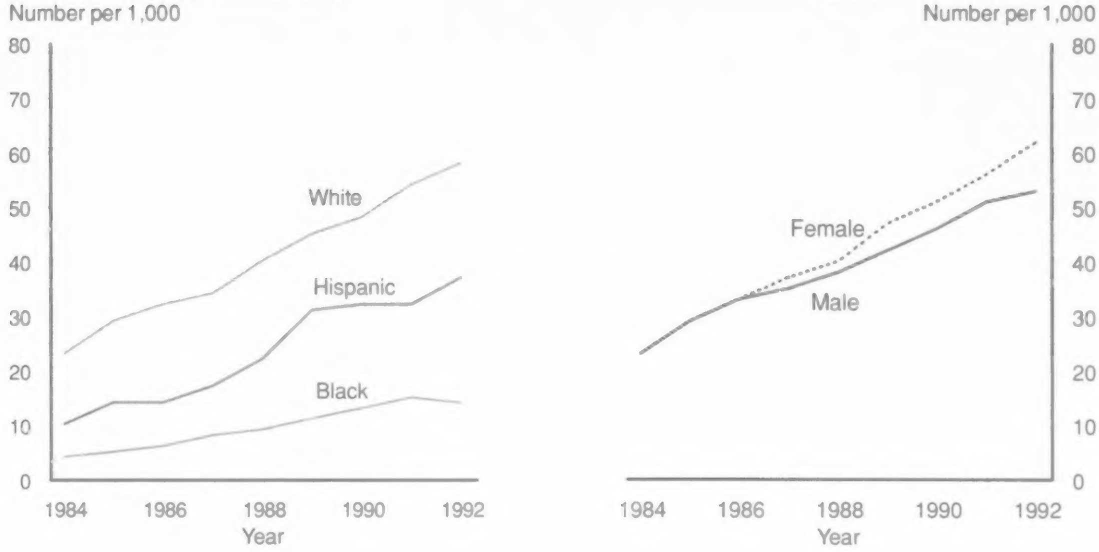
## Advanced Placement examinations participation per 1,000 11th and 12th graders, by race/ethnicity and sex



Number of examinations, by subject: 1992

Number of 11th and 12th graders scoring 3 or higher: 1992

### Number of 11th and 12th graders taking Advanced Placement examinations for all subjects: 1984–1992



By race/ethnicity

By sex

SOURCE: The College Board, Advanced Placement Program, National Summary Reports, 1984–1992 (Copyright © 1992 by College Entrance Examination Board. All rights reserved.), Educational Testing Service, unpublished tabulations. U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-5 Standard errors for estimated percentages in table 4-1

| October | Total | Male | Female | White | Black | Hispanic | Male |  |  | Female |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | White | Black | Hispanic | White | Black | Hispanic |
| 1972 | 0.2 | 0.3 | 0.3 | 0.2 | 0.9 | 1.5 | 0.3 | 1.4 | 2.2 | 0.4 | 1.3 | 2.2 |
| 1973 | 0.2 | 0.4 | 0.3 | 0.2 | 1.0 | 1.5 | 0.4 | 1.5 | 1.9 | 0.3 | 1.2 | 2.2 |
| 1974 | 0.2 | 0.4 | 0.3 | 0.3 | 1.0 | 1.4 | 0.4 | 1.4 | 2.2 | 0.3 | 1.4 | 1.7 |
| 1975 | 0.2 | 0.3 | 0.3 | 0.2 | 0.9 | 1.4 | 0.3 | 1.3 | 1.8 | 0.3 | 1.3 | 2.0 |
| 1976 | 0.2 | 0.3 | 0.3 | 0.3 | 0.8 | 1.1 | 0.4 | 1.2 | 1.7 | 0.3 | 1.1 | 1.5 |
| 1977 | 0.2 | 0.4 | 0.3 | 0.3 | 0.9 | 1.2 | 0.4 | 1.2 | 1.8 | 0.4 | 1.3 | 1.5 |
| 1978 | 0.3 | 0.4 | 0.3 | 0.3 | 1.0 | 1.5 | 0.4 | 1.5 | 2.4 | 0.4 | 1.3 | 1.9 |
| 1979 | 0.3 | 0.4 | 0.4 | 0.3 | 1.0 | 1.4 | 0.4 | 1.3 | 2.0 | 0.4 | 1.4 | 1.9 |
| 1980 | 0.2 | 0.4 | 0.3 | 0.3 | 0.9 | 1.4 | 0.4 | 1.3 | 2.5 | 0.4 | 1.3 | 1.5 |
| 1981 | 0.2 | 0.3 | 0.3 | 0.3 | 1.0 | 1.3 | 0.4 | 1.4 | 1.8 | 0.3 | 1.3 | 1.8 |
| 1982 | 0.3 | 0.4 | 0.4 | 0.3 | 1.0 | 1.6 | 0.5 | 1.6 | 2.2 | 0.4 | 1.4 | 2.3 |
| 1983 | 0.3 | 0.4 | 0.4 | 0.3 | 1.0 | 1.6 | 0.4 | 1.5 | 2.7 | 0.4 | 1.4 | 1.9 |
| 1984 | 0.3 | 0.4 | 0.4 | 0.3 | 0.9 | 1.7 | 0.5 | 1.4 | 2.7 | 0.4 | 1.2 | 2.2 |
| 1985 | 0.3 | 0.4 | 0.4 | 0.3 | 1.1 | 2.3 | 0.5 | 1.6 | 3.3 | 0.4 | 1.5 | 3.1 |
| 1986 | 0.3 | 0.4 | 0.4 | 0.3 | 0.9 | 2.4 | 0.4 | 1.3 | 3.5 | 0.4 | 1.3 | 3.3 |
| 1987 | 0.3 | 0.4 | 0.4 | 0.3 | 1.0 | 1.7 | 0.4 | 1.4 | 2.3 | 0.4 | 1.4 | 2.5 |
| 1988 | 0.4 | 0.6 | 0.6 | 0.4 | 1.3 | 4.6 | 0.6 | 1.9 | 6.7 | 0.6 | 1.9 | 6.1 |
| 1989 | 0.4 | 0.6 | 0.6 | 0.4 | 1.6 | 3.9 | 0.6 | 2.1 | 5.5 | 0.6 | 2.3 | 5.7 |
| 1990 | 0.3 | 0.5 | 0.5 | 0.4 | 1.1 | 2.3 | 0.5 | 1.5 | 3.5 | 0.5 | 1.7 | 3.0 |
| 1991 | 0.3 | 0.5 | 0.5 | 0.4 | 1.2 | 2.2 | 0.5 | 1.6 | 3.6 | 0.6 | 1.8 | 2.4 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-6 Standard errors for the estimated percentages in table 4-2

| October | Total | Low income | Middle income | High income |
|---|---|---|---|---|
| 1972 | 0.2 | 1.1 | 0.3 | 0.3 |
| 1973 | 0.2 | 1.2 | 0.3 | 0.2 |
| 1974 | — | — | — | — |
| 1975 | 0.2 | 1.1 | 0.3 | 0.3 |
| 1976 | 0.2 | 1.1 | 0.3 | 0.2 |
| 1977 | 0.2 | 1.1 | 0.4 | 0.3 |
| 1978 | 0.3 | 1.2 | 0.4 | 0.3 |
| 1979 | 0.3 | 1.2 | 0.3 | 0.3 |
| 1980 | 0.2 | 1.1 | 0.3 | 0.3 |
| 1981 | 0.2 | 1.1 | 0.3 | 0.3 |
| 1982 | 0.3 | 1.3 | 0.4 | 0.3 |
| 1983 | 0.3 | 1.1 | 0.4 | 0.3 |
| 1984 | 0.3 | 1.2 | 0.4 | 0.3 |
| 1985 | 0.3 | 1.3 | 0.4 | 0.3 |
| 1986 | 0.3 | 1.1 | 0.4 | 0.3 |
| 1987 | 0.3 | 1.1 | 0.4 | 0.2 |
| 1988 | 0.4 | 1.8 | 0.5 | 0.4 |
| 1989 | 0.4 | 1.6 | 0.6 | 0.4 |
| 1990 | 0.3 | 1.4 | 0.4 | 0.3 |
| 1991 | 0.3 | 1.4 | 0.4 | 0.3 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-7 Standard errors for estimates percentages in table 4-3

| October | Total | Race/ethnicity | | | College level previous October | | |
|---|---|---|---|---|---|---|---|
| | | White | Black | Hispanic | 1st year | 2nd year | 3rd year |
| 1972 | 0.9 | 0.9 | 3.8 | 6.9 | 1.2 | 1.3 | 1.6 |
| 1973 | 0.9 | 1.0 | 3.3 | 6.9 | 1.2 | 1.4 | 1.6 |
| 1974 | 0.9 | 0.9 | 3.8 | 5.7 | 1.2 | 1.4 | 1.6 |
| 1975 | 0.8 | 0.9 | 3.2 | 6.2 | 1.2 | 1.2 | 1.6 |
| 1976 | 0.8 | 0.9 | 2.8 | 5.8 | 1.2 | 1.2 | 1.5 |
| 1977 | 0.8 | 0.9 | 3.2 | 6.9 | 1.2 | 1.3 | 1.5 |
| 1978 | 0.8 | 0.9 | 3.1 | 6.7 | 1.2 | 1.3 | 1.5 |
| 1979 | 0.8 | 0.9 | 3.2 | 6.8 | 1.1 | 1.3 | 1.6 |
| 1980 | 0.8 | 0.9 | 3.3 | 6.8 | 1.2 | 1.2 | 1.5 |
| 1981 | 0.8 | 0.9 | 3.3 | 7.0 | 1.2 | 1.3 | 1.6 |
| 1982 | 0.8 | 0.9 | 3.2 | 6.0 | 1.2 | 1.3 | 1.5 |
| 1983 | 0.8 | 0.9 | 3.2 | 5.7 | 1.3 | 1.3 | 1.5 |
| 1984 | 0.8 | 0.9 | 3.2 | 5.7 | 1.3 | 1.4 | 1.5 |
| 1985 | 0.8 | 0.9 | 3.5 | 6.2 | 1.3 | 1.3 | 1.5 |
| 1986 | 0.8 | 0.9 | 3.1 | 5.0 | 1.3 | 1.3 | 1.6 |
| 1987 | 0.8 | 0.9 | 3.3 | 5.3 | 1.3 | 1.2 | 1.5 |
| 1988 | 0.8 | 0.9 | 3.5 | 6.2 | 1.4 | 1.3 | 1.6 |
| 1989 | 0.8 | 0.9 | 3.3 | 6.3 | 1.4 | 1.3 | 1.5 |
| 1990 | 0.8 | 0.9 | 3.1 | 5.3 | 1.4 | 1.2 | 1.6 |
| 1991 | 0.8 | 0.9 | 3.2 | 5.2 | 1.4 | 1.2 | 1.4 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-8 Standard errors for estimated percentages in table 4-4

| Grade last year | Total | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|
| | | Male | Female | White | Black | Hispanic |
| | | | **Continuous attendance rate** | | | |
| 9–11 average | 0.3 | 0.4 | 0.4 | 0.3 | 1.0 | 1.8 |
| 9 | 0.4 | 0.6 | 0.6 | 0.4 | 1.6 | 2.9 |
| 10 | 0.5 | 0.7 | 0.8 | 0.6 | 1.9 | 2.6 |
| 11 | 0.5 | 0.7 | 0.8 | 0.6 | 1.9 | 3.7 |
| 12 | 1.5 | 2.2 | 2.1 | 1.7 | 4.8 | 8.4 |
| 13–15 average | 0.8 | 1.1 | 1.1 | 0.9 | 3.0 | 4.7 |
| 13 | 1.2 | 1.7 | 1.7 | 1.4 | 4.2 | 6.5 |
| 14 | 1.4 | 2.0 | 2.0 | 1.6 | 5.9 | 9.3 |
| 15 | 1.3 | 1.7 | 1.9 | 1.4 | 6.2 | (*) |
| 16 | 2.5 | 3.7 | 3.5 | 2.7 | (*) | (*) |
| 17 | 4.1 | 5.3 | 6.8 | 4.6 | (*) | (*) |
| | | | **Grade level progression rate** | | | |
| 9–11 average | 0.3 | 0.5 | 0.4 | 0.3 | 1.2 | 1.8 |
| 9 | 0.5 | 0.8 | 0.6 | 0.5 | 2.0 | 3.0 |
| 10 | 0.5 | 0.8 | 0.6 | 0.5 | 2.3 | 2.7 |
| 11 | 0.5 | 0.7 | 0.6 | 0.5 | 1.8 | 3.5 |
| 12 | 0.9 | 1.6 | 1.1 | 0.9 | 4.7 | 7.6 |
| 13–15 average | 0.7 | 1.1 | 2.0 | 0.8 | 3.0 | 6.1 |
| 13 | 1.2 | 1.8 | 1.6 | 1.2 | 4.3 | 8.7 |
| 14 | 1.4 | 2.1 | 1.9 | 1.6 | 5.4 | 10.5 |
| 15 | 1.2 | 1.6 | 1.6 | 1.2 | 6.7 | (*) |
| 16 | 3.6 | 5.2 | 5.1 | 4.0 | (*) | (*) |
| 17 | 4.8 | 6.5 | 6.7 | 5.2 | (*) | (*) |

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Note on persistence rates

The event dropout rate is the number of recent dropouts as a percentage of estimated 10th-, 11th-, and 12th-grade enrollment the previous October. The high school persistence rate is 100 minus the event dropout rate.

The high school persistence rate is defined as the proportion of students enrolled in grades 10, 11, and 12 the previous October who either enrolled again the following October or graduated from high school. To calculate these rates requires estimating 1) the number who left high school before graduating (recent dropouts), and 2) the number of students enrolled in grades 10, 11, and 12 the previous October. Using the October Current Population Survey (CPS), the first is estimated as the number of persons 15 to 24 years old who were not enrolled during the month of the survey, who were enrolled 1 year earlier, and who have completed 11 or fewer years of schooling. The second is estimated by the sum of 3 groups: 1) recent dropouts, 2) those 15- to 24-year-olds enrolled in grades 11 and 12 during the survey month, and 3) those 15- to 24-year-olds who have completed 12 (or more) years of schooling and who indicate they graduated during the survey year. Those enrolled in special schools are counted as "not enrolled in regular school" and may be classified as recent dropouts.

The college student persistence rate is defined as the proportion of students enrolled the previous October who were enrolled in college again the following October. Calculating this rate requires distinguishing students who were enrolled in high school, college as undergraduates, and college as graduate students. The basis for distinguishing these groups is educational attainment. However, the October CPS reports only *current* educational attainment, so educational attainment for the previous October must be inferred.

Educational attainment in the CPS is reported as "years of schooling completed." Individuals with 12 years of schooling completed are regarded as high school graduates, 16 years completed as college graduates, and so on. Years of schooling completed is based on the responses to two questions: 1) "What is the highest grade . . . ever attended?" and 2) "Did . . . complete it?" For example, an individual who responds that the highest grade he ever attended was first year of college and that he did not complete it, is regarded as having completed 12 years of schooling.

For the purpose of calculating the persistence rate, two assumptions are made:

- First, respondents who were enrolled the previous October are assumed to have *then* reached their highest grade attended if they were not enrolled again the following October. This assumption would overstate the level for those who made the transition to the next level in mid-year.
- Second, respondents who were enrolled in October are assumed to have been in the highest year *completed* the previous October. This would understate the level for those who attended part time and had not made the transition to the next level during the previous year.

Consider three examples. First, those who were enrolled in the previous October, but not in the following October, and whose highest grade *attended* is 13 are assumed to have been freshmen in the previous October. Second, those who were enrolled in the previous October as well as the following October, and whose highest grade *completed* is 13 years of schooling, are assumed to have been freshmen in the previous October. Third, those who were enrolled in the previous October, but not in the following October, and whose highest grade *completed* is 16 years of schooling, are assumed to have been college seniors in the previous October. Some students may be misclassified, but if the extent of misclassification is not very different across groups or over time, then differences between groups and changes over time are useful, although the inferred level may be high or low.

## Table 5-1 Percentage of high school graduates enrolled in college in October following graduation, by sex and type of college: 1973–91

| Year | Both sexes | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | 2-year | 4-year | Total | 2-year | 4-year | Total | 2-year | 4-year |
| 1973 | 46.6 | 14.9 | 31.7 | 50.0 | 14.6 | 35.4 | 43.4 | 15.2 | 28.2 |
| 1974 | 47.6 | 15.2 | 32.4 | 49.4 | 16.6 | 32.8 | 45.9 | 13.9 | 32.0 |
| 1975 | 50.7 | 18.2 | 32.6 | 52.6 | 19.0 | 33.6 | 49.0 | 17.4 | 31.6 |
| 1976 | 48.8 | 15.6 | 33.3 | 47.2 | 14.5 | 32.7 | 50.3 | 16.6 | 33.8 |
| 1977 | 50.6 | 17.5 | 33.1 | 52.1 | 17.2 | 35.0 | 49.3 | 17.8 | 31.5 |
| 1978 | 50.1 | 17.0 | 33.1 | 51.1 | 15.6 | 35.5 | 49.3 | 18.3 | 31.0 |
| 1979 | 49.3 | 17.5 | 31.8 | 50.4 | 16.9 | 33.5 | 48.4 | 18.1 | 30.3 |
| 1980 | 49.3 | 19.4 | 29.9 | 46.7 | 17.1 | 29.7 | 51.8 | 21.6 | 30.2 |
| 1981 | 53.9 | 20.5 | 33.5 | 54.8 | 20.9 | 33.9 | 53.1 | 20.1 | 33.0 |
| 1982 | 50.6 | 19.1 | 31.5 | 49.1 | 17.5 | 31.6 | 52.0 | 20.6 | 31.4 |
| 1983 | 52.7 | 19.2 | 33.5 | 51.9 | 20.2 | 31.7 | 53.4 | 18.4 | 35.1 |
| 1984 | 55.2 | 19.4 | 35.8 | 56.0 | 17.7 | 38.4 | 54.5 | 21.0 | 33.5 |
| 1985 | 57.7 | 19.6 | 38.1 | 58.6 | 19.9 | 38.8 | 56.8 | 19.3 | 37.5 |
| 1986 | 53.8 | 19.3 | 34.5 | 55.8 | 21.3 | 34.5 | 51.9 | 17.3 | 34.6 |
| 1987 | 56.8 | 18.9 | 37.9 | 58.3 | 17.3 | 41.0 | 55.3 | 20.3 | 35.0 |
| 1988 | 58.9 | 21.9 | 37.1 | 57.1 | 21.3 | 35.8 | 60.7 | 22.4 | 38.3 |
| 1989 | 59.6 | 20.7 | 38.9 | 57.6 | 18.3 | 39.3 | 61.6 | 23.1 | 38.5 |
| 1990 | 60.1 | 20.1 | 40.0 | 58.0 | 19.6 | 38.4 | 62.2 | 20.6 | 41.6 |
| 1991 | 62.5 | 24.9 | 37.7 | 57.9 | 22.9 | 35.0 | 67.1 | 26.8 | 40.3 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 5-2 Percentage of high school graduates enrolled in college in October following graduation, by race/ethnicity: 1974–90 (3-year averages)

| Year | Race/ethnicity | | | | |
|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Other* |
| 1974 | 48.3 | 48.7 | 40.5 | 53.1 | 69.3 |
| 1975 | 49.1 | 49.1 | 44.5 | 52.7 | 67.7 |
| 1976 | 50.1 | 50.3 | 45.3 | 53.6 | 57.3 |
| 1977 | 49.9 | 50.1 | 46.8 | 48.8 | 61.1 |
| 1978 | 50.0 | 50.4 | 47.5 | 46.1 | 56.4 |
| 1979 | 49.6 | 50.1 | 45.2 | 46.3 | 60.5 |
| 1980 | 50.8 | 51.5 | 44.0 | 49.6 | 64.3 |
| 1981 | 51.3 | 52.4 | 40.3 | 48.7 | 72.7 |
| 1982 | 52.4 | 54.2 | 38.8 | 49.4 | 69.0 |
| 1983 | 52.8 | 55.5 | 38.0 | 46.7 | 60.9 |
| 1984 | 55.1 | 57.9 | 39.9 | 49.3 | 60.1 |
| 1985 | 55.5 | 58.6 | 39.5 | 46.1 | 66.2 |
| 1986 | 56.1 | 58.5 | 43.5 | 42.3 | 72.5 |
| 1987 | 56.5 | 58.8 | 44.2 | 45.0 | 73.4 |
| 1988 | 58.4 | 60.1 | 49.7 | 48.5 | 73.9 |
| 1989 | 59.5 | 61.6 | 48.0 | 52.7 | 72.6 |
| 1990 | 60.7 | 63.0 | 48.9 | 52.5 | 72.6 |

*Includes individuals who are neither Hispanic, nor white, nor black; most are Asian and some are Native Americans.

NOTE: Three-year averages. For example, the 3-year average percentage for 1990 reported in this table is based on combining the samples for 1989, 1990, and 1991, and calculating the percentage enrolled in college in October following high school graduation in the combined sample. This procedure removes some of the wide yearly fluctuations in the race/ethnicity specific rates.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 5-3 Percentage of high school graduates enrolled in college in October following graduation, by family income: 1973–91 (3-year averages)

| Year | Total | Low income | Middle income | High income |
|---|---|---|---|---|
| 1973 | 46.6 | 20.3 | 41.0 | 64.4 |
| 1974 | — | — | — | — |
| 1975 | 50.7 | 31.2 | 46.2 | 64.5 |
| 1976 | 48.8 | 39.1 | 40.5 | 63.0 |
| 1977 | 50.6 | 27.7 | 44.4 | 66.3 |
| 1978 | 50.1 | 31.4 | 44.3 | 64.2 |
| 1979 | 49.3 | 30.5 | 43.1 | 63.4 |
| 1980 | 49.3 | 32.5 | 42.7 | 65.2 |
| 1981 | 53.9 | 33.6 | 49.3 | 67.6 |
| 1982 | 50.6 | 32.8 | 41.7 | 71.1 |
| 1983 | 52.7 | 34.6 | 45.4 | 70.2 |
| 1984 | 55.2 | 34.5 | 48.4 | 74.0 |
| 1985 | 57.7 | 40.2 | 50.7 | 74.5 |
| 1986 | 53.8 | 33.9 | 48.4 | 71.4 |
| 1987 | 56.8 | 36.9 | 49.9 | 74.0 |
| 1988 | 58.9 | 42.5 | 54.7 | 72.8 |
| 1989 | 59.6 | 48.1 | 55.4 | 70.9 |
| 1990 | 60.1 | 46.7 | 54.5 | 76.5 |
| 1991 | 62.5 | 39.5 | 58.4 | 78.2 |

— Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 5-4 Standard errors for estimated percentages in table 5-1

| Year | Both sexes | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | 2-year | 4-year | Total | 2-year | 4-year | Total | 2-year | 4-year |
| 1973 | 0.9 | 0.6 | 0.8 | 1.3 | 0.9 | 1.3 | 1.3 | 0.9 | 1.1 |
| 1974 | 0.9 | 0.6 | 0.8 | 1.3 | 0.9 | 1.2 | 1.3 | 0.9 | 1.2 |
| 1975 | 0.9 | 0.7 | 0.8 | 1.3 | 1.0 | 1.2 | 1.2 | 0.9 | 1.1 |
| 1976 | 0.9 | 0.7 | 0.9 | 1.3 | 0.9 | 1.2 | 1.3 | 0.9 | 1.2 |
| 1977 | 1.0 | 0.7 | 0.9 | 1.4 | 1.0 | 1.3 | 1.3 | 1.0 | 1.2 |
| 1978 | 1.0 | 0.7 | 0.9 | 1.4 | 1.0 | 1.3 | 1.3 | 1.0 | 1.2 |
| 1979 | 1.0 | 0.7 | 0.9 | 1.4 | 1.0 | 1.3 | 1.3 | 1.0 | 1.2 |
| 1980 | 1.0 | 0.7 | 0.9 | 1.4 | 1.0 | 1.2 | 1.3 | 1.1 | 1.2 |
| 1981 | 1.0 | 0.8 | 0.9 | 1.4 | 1.1 | 1.3 | 1.3 | 1.1 | 1.2 |
| 1982 | 1.2 | 0.9 | 1.1 | 1.7 | 1.3 | 1.6 | 1.7 | 1.3 | 1.5 |
| 1983 | 1.2 | 0.9 | 1.1 | 1.8 | 1.4 | 1.6 | 1.7 | 1.3 | 1.6 |
| 1984 | 1.2 | 0.9 | 1.1 | 1.7 | 1.3 | 1.7 | 1.6 | 1.3 | 1.5 |
| 1985 | 1.3 | 1.0 | 1.2 | 1.8 | 1.4 | 1.8 | 1.8 | 1.4 | 1.7 |
| 1986 | 1.2 | 1.0 | 1.2 | 1.8 | 1.5 | 1.7 | 1.7 | 1.3 | 1.6 |
| 1987 | 1.3 | 1.0 | 1.2 | 1.8 | 1.4 | 1.8 | 1.8 | 1.4 | 1.7 |
| 1988 | 1.8 | 1.5 | 1.7 | 2.5 | 2.1 | 2.4 | 2.5 | 2.1 | 2.5 |
| 1989 | 1.8 | 1.5 | 1.8 | 2.6 | 2.1 | 2.6 | 2.6 | 2.2 | 2.6 |
| 1990 | 1.6 | 1.3 | 1.6 | 2.3 | 1.8 | 2.3 | 2.2 | 1.9 | 2.3 |
| 1991 | 1.6 | 1.4 | 1.6 | 2.3 | 2.0 | 2.2 | 2.2 | 2.1 | 2.3 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 5-5 Standard errors for estimated percentages in table 5-2

| Year | Race/ethnicity | | | | |
|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Other |
| 1974 | 0.5 | 0.6 | 1.9 | 2.8 | 4.5 |
| 1975 | 0.5 | 0.6 | 1.9 | 2.7 | 4.1 |
| 1976 | 0.5 | 0.6 | 1.9 | 2.6 | 4.2 |
| 1977 | 0.6 | 0.6 | 2.0 | 2.6 | 4.1 |
| 1978 | 0.5 | 0.6 | 2.0 | 2.6 | 4.1 |
| 1979 | 0.6 | 0.6 | 1.9 | 2.7 | 3.9 |
| 1980 | 0.6 | 0.6 | 1.9 | 2.7 | 3.8 |
| 1981 | 0.6 | 0.6 | 1.9 | 2.6 | 3.4 |
| 1982 | 0.7 | 0.8 | 2.2 | 3.3 | 4.2 |
| 1983 | 0.7 | 0.8 | 2.1 | 3.2 | 4.5 |
| 1984 | 0.7 | 0.8 | 2.2 | 3.3 | 4.3 |
| 1985 | 0.7 | 0.8 | 2.2 | 4.6 | 4.0 |
| 1986 | 0.7 | 0.8 | 2.4 | 4.7 | 3.5 |
| 1987 | 0.7 | 0.8 | 2.3 | 4.5 | 3.4 |
| 1988 | 1.0 | 1.2 | 3.3 | 8.9 | 5.0 |
| 1989 | 1.1 | 1.2 | 3.3 | 9.4 | 5.2 |
| 1990 | 0.9 | 1.0 | 3.0 | 5.7 | 4.6 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 5-6 Standard errors for estimated percentages in table 5-3

| Year | Total | Low income | Middle income | High income |
|---|---|---|---|---|
| 1973 | 0.9 | 2.3 | 1.2 | 1.5 |
| 1974 | — | — | — | — |
| 1975 | 0.9 | 2.6 | 1.2 | 1.5 |
| 1976 | 0.9 | 3.0 | 1.3 | 1.5 |
| 1977 | 1.0 | 2.6 | 1.3 | 1.5 |
| 1978 | 1.0 | 2.8 | 1.3 | 1.5 |
| 1979 | 1.0 | 2.8 | 1.3 | 1.5 |
| 1980 | 1.0 | 2.6 | 1.3 | 1.5 |
| 1981 | 1.0 | 2.9 | 1.3 | 1.6 |
| 1982 | 1.2 | 3.3 | 1.6 | 1.8 |
| 1983 | 1.2 | 3.5 | 1.6 | 1.9 |
| 1984 | 1.2 | 3.1 | 1.6 | 1.8 |
| 1985 | 1.3 | 3.6 | 1.8 | 1.9 |
| 1986 | 1.2 | 3.1 | 1.7 | 2.0 |
| 1987 | 1.3 | 3.4 | 1.8 | 1.9 |
| 1988 | 1.8 | 4.9 | 2.4 | 2.8 |
| 1989 | 1.8 | 5.1 | 2.6 | 2.9 |
| 1990 | 1.6 | 4.8 | 2.1 | 2.5 |
| 1991 | 1.6 | 4.5 | 2.2 | 2.4 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 6-1 Percentage of college graduates completing the baccalaureate degree within various years of graduating from high school, by race/ethnicity, field of study, and control of institution: Year of college graduation 1977, 1986, and 1990

| Characteristic | 4 or fewer years | | | 5 or fewer years | | | 6 or fewer years | | | More than 6 years | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 |
| **Total** | **45.4** | **34.6** | **31.1** | **67.2** | **60.3** | **57.2** | **75.3** | **70.8** | **68.4** | **24.7** | **29.2** | **31.6** |
| Race/ethnicity | | | | | | | | | | | | |
| White | 46.5 | 36.0 | 32.3 | 68.9 | 62.2 | 58.6 | 76.5 | 72.4 | 69.4 | 23.5 | 27.6 | 30.6 |
| Black | 36.9 | 22.5 | 23.3 | 53.4 | 44.6 | 47.9 | 65.2 | 58.9 | 62.3 | 34.8 | 41.1 | 37.7 |
| Hispanic | 28.5 | 24.3 | 21.3 | 41.3 | 45.5 | 44.1 | 54.4 | 58.5 | 58.0 | 45.6 | 41.5 | 42.0 |
| Asian | 41.5 | 28.8 | 30.1 | 61.9 | 51.7 | 58.9 | 76.0 | 64.0 | 69.2 | 24.0 | 36.0 | 30.8 |
| American Indian | (*) | 33.0 | 11.7 | (*) | 56.8 | 24.5 | (*) | 60.7 | 42.8 | (*) | 39.3 | 57.2 |
| Field of study | | | | | | | | | | | | |
| Humanities and social/behavioral sciences | 48.7 | 41.4 | 39.3 | 66.7 | 62.3 | 62.4 | 75.4 | 71.4 | 71.6 | 24.6 | 28.6 | 28.4 |
| Humanities | 44.9 | 39.2 | 34.3 | 67.5 | 59.0 | 56.4 | 76.4 | 68.0 | 67.8 | 23.6 | 32.0 | 32.2 |
| Social/behaioral sciences | 51.0 | 43.1 | 42.6 | 66.2 | 64.9 | 64.6 | 74.9 | 74.0 | 74.0 | 25.1 | 26.0 | 26.0 |
| Natural and computer sciences and engineering | 49.0 | 35.1 | 29.3 | 71.2 | 62.5 | 58.1 | 81.0 | 73.9 | 70.2 | 19.0 | 26.1 | 29.8 |
| Natural sciences | 57.4 | 45.8 | 42.7 | 75.0 | 68.2 | 66.7 | 83.7 | 77.9 | 75.6 | 16.3 | 22.1 | 24.4 |
| Computer sciences and engineering | 33.7 | 29.2 | 20.0 | 64.1 | 59.4 | 52.3 | 76.0 | 71.7 | 66.4 | 24.0 | 28.3 | 33.6 |
| Technical/professional | 42.2 | 31.3 | 27.4 | 66.2 | 58.2 | 54.8 | 73.4 | 69.1 | 66.1 | 26.6 | 30.9 | 33.9 |
| Education | 44.0 | 30.7 | 22.7 | 67.3 | 57.6 | 49.3 | 74.0 | 68.3 | 60.5 | 26.0 | 31.7 | 39.5 |
| Business | 41.0 | 33.0 | 31.4 | 65.1 | 59.4 | 57.7 | 71.4 | 69.2 | 68.3 | 28.6 | 30.8 | 31.7 |
| Other technical/professional | 41.8 | 29.1 | 25.0 | 66.2 | 56.9 | 53.9 | 74.7 | 69.4 | 66.4 | 25.3 | 30.6 | 33.6 |
| Control of institution | | | | | | | | | | | | |
| Public | — | 26.7 | 23.2 | — | 56.6 | 52.4 | — | 69.4 | 65.8 | — | 30.6 | 34.2 |
| Private | — | 50.1 | 47.0 | — | 67.3 | 67.0 | — | 73.4 | 73.5 | — | 26.6 | 26.5 |

—Not available

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 6-2 Percentage of college graduates completing the baccalaureate degree within various years of starting college, by field of study: Year of college graduation 1990

| Field of study | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
|---|---|---|---|---|
| **Total** | **43.4** | **70.8** | **81.0** | **19.0** |
| Humanities and social/behavioral sciences | 48.9 | 72.3 | 81.5 | 18.5 |
| Humanities | 43.7 | 68.5 | 78.6 | 21.4 |
| Social/behaioral sciences | 52.4 | 74.9 | 83.4 | 16.6 |
| Natural and computer sciences and engineering | 39.5 | 71.9 | 83.1 | 16.9 |
| Natural sciences | 51.1 | 76.4 | 84.3 | 15.7 |
| Computer sciences and engineering | 31.5 | 68.8 | 82.3 | 17.7 |
| Technical/professional | 41.7 | 69.7 | 80.1 | 19.9 |
| Education | 38.0 | 67.5 | 78.2 | 21.8 |
| Business | 43.6 | 69.9 | 78.9 | 21.1 |
| Other technical/professional | 41.4 | 70.5 | 82.4 | 17.6 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 6-3 Standard errors for estimated percentages in text table for *Indicator 6*

| Year of college graduation | Total | | | | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 or fewer years | 5 or fewer, years | 6 or fewer years | More than 6 years | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
| | **Time between graduating from high school and completing the baccalaureate degree** | | | | | | | | | | | |
| 1977 | 1.5 | 1.4 | 1.3 | 1.3 | 1.6 | 1.5 | 1.4 | 1.4 | 1.7 | 1.5 | 1.4 | 1.4 |
| 1986 | 0.9 | 0.9 | 0.8 | 0.8 | 1.0 | 1.1 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 |
| 1990 | 0.8 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.0 | 1.0 | 0.9 | 1.1 | 1.1 | 1.1 |

| Characteristic | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
|---|---|---|---|---|
| | **Time between starting and completing the baccalaureate degree** | | | |
| **Total** | **0.7** | **0.8** | **0.7** | **0.7** |
| Sex | | | | |
| Male | 1.0 | 0.9 | 0.8 | 0.8 |
| Female | 0.8 | 0.7 | 0.7 | 0.7 |
| Control of institution | | | | |
| Public | 0.6 | 0.6 | 0.6 | 0.6 |
| Private | 2.2 | 1.9 | 1.7 | 1.7 |
| Race/ethnicity | | | | |
| White | 0.8 | 0.7 | 0.7 | 0.7 |
| Black | 1.6 | 1.6 | 1.5 | 1.5 |
| Hispanic | 2.1 | 1.7 | 1.6 | 1.6 |
| Asian | 2.1 | 1.8 | 1.5 | 1.5 |
| American Indian | 3.0 | 5.2 | 5.0 | 5.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 6-4 Standard errors for estimated percentages in table 6-1

| Characteristic | 4 or fewer years | | | 5 or fewer years | | | 6 or fewer years | | | More than 6 years | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 | 1977 | 1986 | 1990 |
| **Total** | **1.5** | **0.9** | **0.8** | **1.4** | **0.9** | **1.0** | **1.3** | **0.8** | **1.0** | **1.3** | **0.8** | **1.0** |
| Race/ethnicity | | | | | | | | | | | | |
| White | 1.5 | 0.9 | 0.9 | 1.4 | 0.9 | 1.0 | 1.3 | 0.8 | 1.0 | 1.3 | 0.8 | 1.0 |
| Black | 3.2 | 2.4 | 1.5 | 3.3 | 2.8 | 1.9 | 3.2 | 2.8 | 2.0 | 3.2 | 2.8 | 2.0 |
| Hispanic | 5.8 | 2.7 | 2.0 | 6.3 | 3.1 | 2.0 | 6.4 | 3.1 | 1.9 | 6.4 | 3.1 | 1.9 |
| Asian | 4.6 | 3.8 | 2.2 | 4.6 | 4.2 | 2.2 | 4.0 | 4.0 | 1.9 | 4.0 | 4.0 | 1.9 |
| American Indian | (*) | 1.6 | 3.5 | (*) | 1.7 | 4.3 | (*) | 1.7 | 5.3 | (*) | 1.7 | 5.3 |
| Field of study | | | | | | | | | | | | |
| Humanities and social/behavioral sciences | 1.5 | 0.9 | 1.1 | 1.4 | 0.9 | 1.1 | 1.3 | 0.8 | 1.0 | 1.3 | 0.8 | 1.0 |
| Humanities | 1.8 | 1.3 | 1.9 | 1.7 | 1.2 | 1.9 | 1.5 | 1.2 | 1.9 | 1.5 | 1.2 | 1.9 |
| Social/behaioral sciences | 3.1 | 1.9 | 1.5 | 2.9 | 1.9 | 1.3 | 2.7 | 1.8 | 1.0 | 2.7 | 1.8 | 1.0 |
| Natural and computer sciences and engineering | 2.0 | 1.7 | 1.3 | 1.9 | 1.6 | 1.4 | 1.8 | 1.5 | 1.3 | 1.8 | 1.5 | 1.3 |
| Natural sciences | 2.5 | 1.2 | 1.6 | 2.3 | 1.2 | 1.3 | 2.0 | 1.1 | 1.3 | 2.0 | 1.1 | 1.3 |
| Computer sciences and engineering | 2.3 | 1.4 | 1.8 | 2.0 | 1.3 | 2.6 | 1.7 | 1.2 | 2.7 | 1.7 | 1.2 | 2.7 |
| Technical/professional | 5.2 | 1.8 | 0.7 | 5.3 | 1.9 | 0.8 | 4.7 | 1.8 | 0.8 | 4.7 | 1.8 | 0.8 |
| Education | 1.2 | 0.7 | 0.8 | 1.2 | 0.7 | 1.2 | 1.1 | 0.7 | 1.3 | 1.1 | 0.7 | 1.3 |
| Business | 1.5 | 1.1 | 1.3 | 1.4 | 1.2 | 1.7 | 1.3 | 1.1 | 1.8 | 1.3 | 1.1 | 1.8 |
| Other technical/profession | 3.1 | 1.7 | 1.0 | 3.0 | 1.8 | 1.4 | 2.8 | 1.7 | 1.6 | 2.8 | 1.7 | 1.6 |
| Control of institution | | | | | | | | | | | | |
| Public | — | 0.6 | 0.6 | — | 0.7 | 0.8 | — | 0.7 | 0.8 | — | 0.7 | 0.8 |
| Private | — | 2.5 | 2.4 | — | 2.3 | 2.5 | — | 2.2 | 2.5 | — | 2.2 | 2.5 |

—Not available

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 6-5 Standard errors for estimated percentages in table 6-2

| Field of study | 4 or fewer years | 5 or fewer years | 6 or fewer years | More than 6 years |
|---|---|---|---|---|
| **Total** | **0.7** | **0.7** | **0.7** | **0.7** |
| Humanities and social/behavioral sciences | 1.4 | 1.0 | 1.0 | 1.0 |
| Humanities | 1.8 | 1.5 | 1.5 | 1.5 |
| Social/behavioral sciences | 1.4 | 1.1 | 0.9 | 0.9 |
| Natural and computer sciences and engineering | 1.4 | 1.1 | 1.1 | 1.1 |
| Natural sciences | 1.5 | 1.0 | 1.0 | 1.0 |
| Computer sciences and engineering | 2.0 | 1.8 | 1.8 | 1.8 |
| Technical/professional | 0.8 | 0.9 | 0.8 | 0.8 |
| Education | 0.8 | 1.0 | 1.0 | 1.0 |
| Business | 1.2 | 1.5 | 1.4 | 1.4 |
| Other technical/professional | 1.1 | 0.8 | 0.8 | 0.8 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 7-1 Percentage of baccalaureate degree recipients enrolled in school 1 year after graduation or employed full-time, by field of major, sex, and race/ethnicity: Selected years of graduation 1977–90

| Field of study, sex, and race/ethnicity | Enrolled in school[1] | | | | | Employed full-time[2] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1980 | 1984 | 1986 | 1990 | 1977 | 1980 | 1984 | 1986 | 1990 |
| **Total** | **17.3** | **15.6** | **14.8** | **11.4** | **12.2** | **68.0** | **71.2** | **72.7** | **73.7** | **73.5** |
| Field of study | | | | | | | | | | |
| Humanities and social/behavioral sciences | 24.9 | 25.0 | 24.3 | 20.2 | 19.4 | 55.6 | 57.9 | 60.0 | 60.3 | 62.3 |
| Humanities | 21.4 | 23.4 | 21.8 | 19.2 | 17.0 | 56.5 | 55.2 | 59.5 | 58.8 | 59.9 |
| Social/behavioral sciences | 27.0 | 26.2 | 26.1 | 21.0 | 20.9 | 55.0 | 59.8 | 60.3 | 61.5 | 63.9 |
| Natural and computer sciences and engineering | 29.3 | 23.2 | 20.1 | 15.5 | 18.4 | 61.4 | 67.8 | 72.5 | 72.6 | 72.4 |
| Natural sciences | 38.8 | 36.4 | 38.1 | 32.4 | 35.0 | 50.0 | 52.3 | 51.6 | 52.5 | 53.5 |
| Computer sciences and engineering | 12.5 | 7.8 | 8.8 | 6.3 | 7.0 | 81.6 | 85.8 | 85.6 | 83.5 | 85.5 |
| Technical/professional | 8.8 | 9.1 | 7.9 | 5.7 | 6.4 | 77.6 | 78.3 | 79.1 | 79.8 | 79.8 |
| Education | 7.2 | 9.4 | 9.6 | 5.8 | 5.7 | 74.4 | 72.9 | 73.2 | 75.0 | 76.8 |
| Business | 7.5 | 8.2 | 5.5 | 3.8 | 4.9 | 83.2 | 83.6 | 85.0 | 84.9 | 82.9 |
| Other technical/professional[3] | 11.1 | 9.8 | 10.2 | 8.3 | 8.5 | 75.0 | 77.2 | 74.8 | 75.0 | 77.5 |
| Sex | | | | | | | | | | |
| Male | 19.5 | 17.4 | 16.3 | 13.0 | 12.7 | 70.1 | 72.9 | 74.9 | 74.7 | 75.0 |
| Female | 14.5 | 14.1 | 13.4 | 9.8 | 11.7 | 65.6 | 69.4 | 70.6 | 72.7 | 72.2 |
| Race/ethnicity | | | | | | | | | | |
| White | 16.8 | 15.6 | 14.6 | 11.2 | 11.8 | 68.8 | 71.8 | 73.3 | 74.6 | 73.8 |
| Black | 16.4 | 8.7 | 14.3 | 8.8 | 10.7 | 65.4 | 70.1 | 67.2 | 66.2 | 74.6 |
| Hispanic | 26.4 | 25.7 | 16.4 | 13.0 | 14.8 | 62.2 | 59.7 | 72.3 | 69.0 | 71.2 |
| Asian | 30.0 | 34.1 | 20.9 | 18.5 | 21.6 | 55.6 | 52.9 | 65.8 | 63.3 | 67.2 |
| American Indian | (4) | (4) | 13.6 | 14.5 | 11.1 | (4) | (4) | 70.1 | 71.8 | 69.5 |

[1] Enrolled in school and not employed full-time.

[2] May include some who were enrolled in school.

[3] Other technical/professional fields are: agriculture and agricultural sciences; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

[4] Too few cases for a reliable estimate.

NOTE: Enrolled in school refers to enrollment in any type of school. Of the 1990 bachelor's degree recipients enrolled in school and not working full-time one year after graduation, 87 percent were working toward a master's, doctor's, or first-professional degree. Supplemental table 7-2 shows the type of educational program attended, by field of major. Because of variations in survey design, it is not possible to distinguish those in graduate and non-graduate programs for all survey years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 7-2 Type of educational program attended by 1990 baccalaureate recipients enrolled in school and not working full-time one year after graduation, by field of major

| Type of educational program | Field of major | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All majors | Humanities | Social/ behavioral sciences | Natural sciences | Computer sciences and engineering | Education | Business | Other technical/ professional[1] |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Post-baccalaureate degree | 86.7 | 81.5 | 88.0 | 91.3 | 92.9 | 78.3 | 79.3 | 88.3 |
| Master's | 49.9 | 57.1 | 45.8 | 26.2 | 78.7 | 72.9 | 49.4 | 65.8 |
| Doctor's | 9.6 | 3.4 | 11.5 | 22.2 | 7.5 | 0.8 | 0.8 | 3.6 |
| First-professional | 27.3 | 20.9 | 30.8 | 43.0 | 6.6 | 4.7 | 29.1 | 18.9 |
| Other program[2] | 13.3 | 18.5 | 12.0 | 8.7 | 7.1 | 21.7 | 20.7 | 11.7 |

[1] Other technical/professional fields are: agriculture and agricultural science; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

[2] Certificate or formal award (vocational, post-baccalaureate, post-master's and unspecified), other degree (associate's or bachelor's), and not for degree, certificate, or award.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1991 Recent College Graduate survey.

## Table 7-3 Standard errors for estimated percentages in table 7-1

| Field of study, sex, and race/ethnicity | Enrolled in school[1] | | | | | Employed full-time[2] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1980 | 1984 | 1986 | 1990 | 1977 | 1980 | 1984 | 1986 | 1990 |
| **Total** | **0.8** | **0.7** | **0.6** | **0.4** | **0.3** | **0.9** | **0.8** | **0.7** | **0.5** | **0.4** |
| Field of study | | | | | | | | | | |
| Humanities and social/behavioral sciences | 1.4 | 1.6 | 1.1 | 0.9 | 0.9 | 1.7 | 1.9 | 1.4 | 1.2 | 1.1 |
| Humanities | 2.0 | 2.2 | 1.4 | 1.2 | 0.9 | 2.7 | 2.9 | 1.9 | 1.7 | 1.2 |
| Social/behavioral sciences | 1.7 | 2.0 | 1.5 | 1.3 | 0.7 | 2.0 | 2.4 | 1.8 | 1.7 | 0.8 |
| Natural and computer sciences and engineering | 2.2 | 2.0 | 1.1 | 0.9 | 1.1 | 2.4 | 2.3 | 1.2 | 1.1 | 1.3 |
| Natural sciences | 2.6 | 2.8 | 2.0 | 1.6 | 1.2 | 2.8 | 3.0 | 2.1 | 1.7 | 1.2 |
| Computer science and engineering | 2.4 | 1.6 | 0.9 | 0.7 | 0.6 | 2.8 | 2.1 | 1.0 | 1.0 | 0.8 |
| Technical/professional | 0.7 | 0.5 | 0.6 | 0.3 | 0.4 | 0.9 | 0.7 | 0.7 | 0.5 | 0.7 |
| Education | 0.8 | 0.6 | 1.0 | 0.6 | 0.3 | 1.5 | 1.0 | 1.6 | 1.2 | 0.8 |
| Business | 1.0 | 1.0 | 0.6 | 0.4 | 0.3 | 1.4 | 1.3 | 0.9 | 0.8 | 0.6 |
| Other technical/professional[3] | 1.7 | 1.6 | 1.3 | 0.7 | 0.4 | 2.0 | 2.0 | 1.7 | 1.0 | 0.6 |
| Sex | | | | | | | | | | |
| Male | 1.0 | 0.9 | 0.7 | 0.6 | 0.4 | 1.9 | 1.8 | 1.4 | 1.2 | 0.5 |
| Female | 1.1 | 0.9 | 0.8 | 0.5 | 0.3 | 2.0 | 1.6 | 1.5 | 1.1 | 0.4 |
| Race/ethnicity | | | | | | | | | | |
| White | 0.8 | 0.7 | 0.6 | 0.4 | 0.3 | 1.0 | 0.8 | 0.7 | 0.6 | 0.4 |
| Black | 2.2 | 1.8 | 1.7 | 1.5 | 0.9 | 4.0 | 4.1 | 3.2 | 3.5 | 1.0 |
| Hispanic | 7.2 | 5.8 | 2.3 | 2.2 | 0.7 | 6.4 | 5.3 | 2.2 | 2.4 | 1.7 |
| Asian | 5.8 | 5.9 | 2.9 | 2.4 | 1.6 | 6.3 | 6.3 | 3.4 | 3.0 | 1.6 |
| American Indian | ([4]) | ([4]) | 6.7 | 3.8 | 4.2 | ([4]) | ([4]) | 8.6 | 4.7 | 4.7 |

[1] Enrolled in school and not employed full-time.

[2] May include some who were enrolled in school.

[3] Other technical/professional fields are: agriculture and agricultural science; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

[4] Too few cases for a reliable estimate.

NOTE: Enrolled in school refers to enrollment in any type of school. Of the 1990 bachelor's degree recipients enrolled in school and not working full-time one year after graduation, 87 percent were working toward a master's, doctor's, or first-professional degree. Supplemental table 7-2 shows the type of educational program attended, by field of major. Because of variations in survey design, it is not possible to distinguish those in graduate and non-graduate programs for all survey years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Table 8-1 Adult education participation rates, by main reason for participation, educational attainment, employment status, race/ethnicity, age, and sex: 1990–91

| Characteristic | Main reason for participation in adult education* | | | | |
|---|---|---|---|---|---|
| | Total | Job related | Basic skills | Degree | Personal |
| | | | **Both sexes** | | |
| **Total** | **31.6** | **21.4** | **0.4** | **4.1** | **9.6** |
| Educational attainment | | | | | |
| Grade 8 or less | 7.2 | 1.5 | 0.5 | 1.0 | 4.0 |
| Grades 9-11 | 14.3 | 7.9 | 0.5 | 2.2 | 4.3 |
| High school or equivalent | 22.5 | 14.9 | 0.4 | 2.1 | 7.0 |
| Vocational/technical school | 31.7 | 23.2 | 0.1 | 3.1 | 9.0 |
| Some college, no degree | 39.4 | 24.4 | 0.5 | 7.7 | 13.0 |
| Associate's degree | 49.1 | 38.2 | 0.4 | 7.4 | 10.8 |
| Bachelor's degree or higher | 52.2 | 39.2 | 0.1 | 5.9 | 14.8 |
| Employment status | | | | | |
| Employed | 40.8 | 30.9 | 0.4 | 5.3 | 10.0 |
| Unemployed | 21.4 | 11.8 | 0.4 | 5.4 | 5.9 |
| Not in labor force | 14.5 | 3.7 | 0.4 | 1.5 | 9.2 |
| Race/ethnicity | | | | | |
| White | 33.1 | 22.8 | 0.2 | 4.3 | 10.0 |
| Black | 22.8 | 14.8 | 0.7 | 3.0 | 6.9 |
| Hispanics | 29.2 | 18.4 | 1.2 | 3.6 | 9.0 |
| Age | | | | | |
| 17-24 | 32.9 | 17.6 | 1.2 | 9.5 | 9.8 |
| 25-34 | 37.1 | 27.2 | 0.5 | 5.4 | 9.5 |
| 35-44 | 44.3 | 32.5 | 0.3 | 5.3 | 11.9 |
| 45-54 | 31.9 | 24.0 | 0.2 | 2.3 | 9.4 |
| 55-64 | 22.6 | 14.7 | 0.2 | 1.2 | 8.0 |
| 65 and older | 10.5 | 2.6 | 0.0 | 0.3 | 7.7 |
| | | | **Male** | | |
| **Total** | **31.6** | **23.4** | **0.4** | **3.6** | **7.7** |
| Educational attainment | | | | | |
| Grade 8 or less | 7.2 | 1.2 | 0.0 | 0.9 | 4.3 |
| Grades 9-11 | 11.9 | 8.8 | 0.5 | 0.8 | 2.1 |
| High school or equivalent | 22.0 | 15.7 | 0.4 | 1.7 | 5.7 |
| Vocational/technical school | 34.7 | 27.8 | 0.0 | 4.2 | 6.4 |
| Some college, no degree | 38.2 | 26.1 | 0.5 | 7.1 | 10.6 |
| Associate's degree | 54.5 | 42.9 | 0.8 | 5.7 | 9.9 |
| Bachelor's degree or higher | 51.9 | 41.5 | 0.1 | 5.1 | 11.4 |
| Employment status | | | | | |
| Employed | 39.0 | 30.7 | 0.4 | 4.3 | 8.2 |
| Unemployed | 21.1 | 13.0 | 0.3 | 4.7 | 5.8 |
| Not in the labor force | 10.2 | 2.7 | 0.4 | 1.2 | 6.5 |
| Race/ethnicity | | | | | |
| White | 32.8 | 24.8 | 0.3 | 3.7 | 7.8 |
| Black | 22.7 | 16.2 | 0.4 | 2.3 | 5.8 |
| Hispanics | 32.2 | 21.5 | 1.6 | 3.1 | 9.0 |
| Age | | | | | |
| 17-24 | 31.1 | 17.2 | 0.8 | 8.0 | 10.0 |
| 25-34 | 37.0 | 29.8 | 0.6 | 4.6 | 7.0 |
| 35-44 | 43.0 | 33.9 | 0.3 | 4.9 | 8.6 |
| 45-54 | 30.5 | 23.7 | 0.2 | 1.3 | 7.9 |
| 55-64 | 24.3 | 17.9 | 0.2 | 0.6 | 6.5 |
| 65 and older | 10.3 | 4.1 | 0.0 | 0.4 | 6.2 |

## Table 8-1 Adult education participation rates, by main reason for participation, educational attainment, employment status, race/ethnicity, age, and sex: 1990–91—Continued

| Characteristic | Main reason for participation in adult education* | | | | |
|---|---|---|---|---|---|
| | Total | Job related | Basic skills | Degree | Personal |
| | | | **Female** | | |
| **Total** | **31.6** | **20.0** | **0.4** | **4.6** | **11.1** |
| Educational attainment | | | | | |
| Grade 8 or less | 7.3 | 1.7 | 0.2 | 1.1 | 3.8 |
| Grades 8–11 | 16.0 | 7.3 | 0.5 | 3.2 | 5.8 |
| High school or equivalent | 22.9 | 14.2 | 0.5 | 2.4 | 8.0 |
| Vocational/technical school | 29.2 | 19.4 | 0.2 | 2.0 | 11.1 |
| Some college, no degree | 40.1 | 23.2 | 0.5 | 8.0 | 14.5 |
| Associate's degree | 45.2 | 35.2 | 0.1 | 8.5 | 11.3 |
| Bachelor's degree or higher | 52.6 | 36.7 | 0.1 | 6.6 | 18.5 |
| Employment status | | | | | |
| Employed | 42.7 | 31.2 | 0.4 | 6.4 | 12.0 |
| Unemployed | 21.6 | 11.0 | 0.4 | 6.0 | 5.9 |
| Not in the labor force | 16.6 | 4.2 | 0.3 | 1.7 | 10.6 |
| Race/ethnicity | | | | | |
| White | 33.4 | 21.1 | 0.2 | 4.8 | 11.8 |
| Black | 22.8 | 14.0 | 0.9 | 3.5 | 7.5 |
| Hispanic | 26.5 | 15.5 | 1.0 | 4.0 | 9.0 |
| Age | | | | | |
| 17–24 | 34.4 | 18.0 | 1.4 | 10.7 | 9.7 |
| 25–34 | 37.2 | 25.1 | 0.4 | 6.0 | 11.5 |
| 35–44 | 45.5 | 31.1 | 0.3 | 5.7 | 15.1 |
| 45–54 | 33.3 | 24.3 | 0.2 | 3.2 | 10.8 |
| 55–64 | 21.3 | 12.1 | 0.1 | 1.6 | 9.1 |
| 65 and older | 10.6 | 1.6 | 0.1 | 0.2 | 8.7 |

*Main reason for participation was determined from up to four courses taken over a 12-month period. Individuals taking different courses for different reasons are included in more than one category. About 14 percent of the participants took more than four courses.

NOTE: Adult education is defined in this indicator as part-time participation in any type of educational course or program by tose 17 years of age and older, excluding those enrolled full-time in elementary or secondary schools at the time of the survey. The educatoinal programs and courses included are: college, vocational, or occupational programs; continuing education and noncredit courses; tutoring; educational activities provided by business and community groups, such as churches, labor unions, and professional associations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

## Table 8-2 Standard errors for estimated rates in table 8-1

| Characteristic | Main reason for participation in adult education | | | | |
|---|---|---|---|---|---|
| | Total | Job related | Basic skills | Degree | Personal |
| | | | **Both sexes** | | |
| **Total** | **0.7** | **0.6** | **0.04** | **0.2** | **0.3** |
| Educational attainment | | | | | |
| Grade 8 or less | 1.4 | 0.3 | 0.2 | 0.3 | 1.2 |
| Grades 8–11 | 2.3 | 1.8 | 0.1 | 0.5 | 1.1 |
| High school or equivalent | 1.1 | 0.9 | 0.1 | 0.2 | 0.5 |
| Vocational/technical school | 3.8 | 3.3 | 0.1 | 1.3 | 2.0 |
| Some college, no degree | 1.6 | 1.1 | 0.1 | 0.6 | 1.0 |
| Associate's degree | 5.9 | 5.0 | 0.2 | 1.6 | 1.8 |
| Bachelor's degree or higher | 2.0 | 1.9 | 0.0 | 0.5 | 1.0 |
| Employment status | | | | | |
| Employed | 1.0 | 1.0 | 0.1 | 0.3 | 0.4 |
| Unemployed | 3.1 | 2.9 | 0.1 | 1.3 | 0.9 |
| Not in labor force | 1.0 | 0.6 | 0.1 | 0.2 | 0.7 |
| Race/ethnicity | | | | | |
| White | 0.8 | 0.7 | 0.0 | 0.2 | 0.4 |
| Black | 2.1 | 1.5 | 0.2 | 0.5 | 1.2 |
| Hispanic | 2.6 | 2.1 | 0.4 | 0.4 | 1.4 |
| Age | | | | | |
| 17–24 | 1.3 | 1.1 | 0.2 | 0.8 | 0.8 |
| 25–34 | 1.9 | 1.6 | 0.1 | 0.4 | 0.8 |
| 35–44 | 2.1 | 1.6 | 0.1 | 0.5 | 1.2 |
| 45–54 | 2.2 | 2.1 | 0.1 | 0.3 | 0.8 |
| 55–64 | 2.1 | 1.8 | 0.1 | 0.2 | 0.8 |
| 65 and older | 1.3 | 0.5 | 0.0 | 0.1 | 1.1 |
| | | | **Male** | | |
| **Total** | **1.1** | **0.9** | **0.1** | **0.3** | **0.5** |
| Educational attainment | | | | | |
| Grade 8 or less | 2.5 | 0.5 | 0.5 | 0.5 | 2.2 |
| Grades 8–11 | 3.2 | 3.1 | 0.2 | 0.3 | 0.6 |
| High school or equivalent | 1.9 | 1.6 | 0.1 | 0.3 | 0.8 |
| Vocational/technical school | 7.1 | 6.2 | 0.0 | 2.8 | 3.1 |
| Some college, no degree | 2.1 | 1.8 | 0.2 | 0.9 | 1.0 |
| Associate's degree | 8.5 | 7.7 | 0.5 | 1.6 | 2.5 |
| Bachelor's degree or higher | 2.8 | 2.8 | 0.1 | 0.6 | 1.0 |
| Employment status | | | | | |
| Employed | 1.6 | 1.4 | 0.1 | 0.4 | 0.6 |
| Unemployed | 4.9 | 4.8 | 0.2 | 1.5 | 1.5 |
| Not in the labor force | 1.2 | 0.5 | 0.2 | 0.2 | 1.1 |
| Race/ethnicity | | | | | |
| White | 1.3 | 1.1 | 0.1 | 0.3 | 0.5 |
| Black | 3.1 | 2.5 | 0.1 | 0.7 | 1.6 |
| Hispanic | 3.8 | 3.0 | 0.6 | 0.6 | 2.5 |
| Age | | | | | |
| 17–24 | 2.0 | 1.6 | 0.3 | 0.8 | 1.3 |
| 25–34 | 2.9 | 2.5 | 0.1 | 0.7 | 0.7 |
| 35–44 | 3.4 | 3.0 | 0.1 | 0.8 | 1.2 |
| 45–54 | 3.8 | 3.2 | 0.1 | 0.3 | 1.5 |
| 55–64 | 3.5 | 3.1 | 0.1 | 0.2 | 1.3 |
| 65 and older | 2.1 | 1.2 | 0.0 | 0.2 | 1.4 |

## Table 8-2 Standard errors for estimated rates in table 8-1 — Continued

| Characteristic | Main reason for participation in adult education | | | | |
|---|---|---|---|---|---|
| | Total | Job related | Basic skills | Degree | Personal |
| | | | **Female** | | |
| **Total** | **1.0** | **0.8** | **0.1** | **0.3** | **0.6** |
| Educational attainment | | | | | |
| Grade 8 or less | 1.6 | 0.5 | 0.1 | 0.4 | 1.2 |
| Grades 8–11 | 3.2 | 2.3 | 0.1 | 0.9 | 1.9 |
| High school or equivalent | 1.3 | 1.1 | 0.1 | 0.4 | 0.8 |
| Vocational/technical school | 4.9 | 3.8 | 0.1 | 0.7 | 2.7 |
| Some college, no degree | 2.5 | 1.6 | 0.1 | 0.7 | 1.4 |
| Associate's degree | 8.6 | 7.2 | 0.1 | 2.4 | 2.7 |
| Bachelor's degree or higher | 2.6 | 2.0 | 0.1 | 0.8 | 1.7 |
| Employment status | | | | | |
| Employed | 1.3 | 1.1 | 0.1 | 0.4 | 0.7 |
| Unemployed | 4.8 | 3.6 | 0.2 | 2.0 | 1.4 |
| Not in the labor force | 1.2 | 0.8 | 0.1 | 0.2 | 0.9 |
| Race/ethnicity | | | | | |
| White | 1.2 | 1.0 | 0.1 | 0.3 | 0.7 |
| Black | 2.4 | 1.7 | 0.4 | 0.5 | 1.2 |
| Hispanic | 2.8 | 2.3 | 0.3 | 0.7 | 1.2 |
| Age | | | | | |
| 17–24 | 2.1 | 1.8 | 0.4 | 1.2 | 1.0 |
| 25–34 | 2.8 | 2.0 | 0.1 | 0.7 | 1.0 |
| 35–44 | 2.8 | 2.0 | 0.1 | 0.5 | 2.0 |
| 45–54 | 2.3 | 2.0 | 0.1 | 0.4 | 1.9 |
| 55–64 | 2.2 | 1.8 | 0.1 | 0.3 | 1.3 |
| 65 and older | 1.5 | 0.3 | 0.0 | 0.1 | 1.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

**Table 9-1** **Average undergraduate tuition, room, and board as a percentage of income of families with children 6–17 years old, by family income percentile and control of institution: 1975–91**

| Year | Public institutions | | | | | Private institutions | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Family income percentile | | | | | Family income percentile | | | | |
| | 10th | 25th | 50th | 75th | 90th | 10th | 25th | 50th | 75th | 90th |
| 1975 | 32.1 | 16.9 | 10.5 | 7.5 | 5.5 | 70.5 | 37.2 | 23.2 | 16.4 | 12.2 |
| 1976 | 32.6 | 16.8 | 10.3 | 7.4 | 5.5 | 71.1 | 36.7 | 22.5 | 16.1 | 11.9 |
| 1977 | 32.3 | 16.8 | 10.2 | 7.2 | 5.4 | 71.1 | 37.0 | 22.4 | 15.9 | 11.8 |
| 1978 | 31.7 | 16.3 | 9.9 | 7.1 | 5.2 | 71.7 | 37.0 | 22.3 | 16.2 | 11.8 |
| 1979 | 30.9 | 16.2 | 9.7 | 6.8 | 4.9 | 70.1 | 36.7 | 22.1 | 15.4 | 11.2 |
| 1980 | 29.8 | 17.1 | 10.1 | 6.9 | 5.0 | 68.8 | 39.5 | 23.2 | 15.9 | 11.6 |
| 1981 | 30.3 | 18.3 | 10.5 | 7.2 | 5.3 | 70.2 | 42.4 | 24.4 | 16.7 | 12.2 |
| 1982 | 31.6 | 19.8 | 11.2 | 7.6 | 5.5 | 74.3 | 46.6 | 26.4 | 17.8 | 12.9 |
| 1983 | 32.8 | 20.8 | 11.7 | 7.7 | 5.6 | 78.1 | 49.5 | 27.9 | 18.3 | 13.2 |
| 1984 | 34.0 | 20.8 | 11.9 | 7.8 | 5.6 | 81.8 | 50.2 | 28.7 | 18.8 | 13.5 |
| 1985 | 34.4 | 20.6 | 11.6 | 7.8 | 5.6 | 85.6 | 51.1 | 28.9 | 19.4 | 13.9 |
| 1986 | 36.0 | 21.6 | 12.0 | 7.9 | 5.7 | 91.4 | 55.0 | 30.6 | 20.1 | 14.4 |
| 1987 | 36.9 | 22.1 | 12.1 | 7.9 | 5.7 | 95.8 | 57.3 | 31.4 | 20.6 | 14.8 |
| 1988 | 37.4 | 22.0 | 12.3 | 8.0 | 5.8 | 98.0 | 57.6 | 32.1 | 21.1 | 15.2 |
| 1989 | 37.6 | 21.9 | 12.3 | 8.1 | 5.7 | 100.4 | 58.5 | 32.9 | 21.7 | 15.3 |
| 1990 | 37.7 | 22.7 | 12.9 | 8.4 | 5.9 | 102.4 | 61.7 | 35.0 | 22.8 | 16.0 |
| 1991 | 39.4 | 24.5 | 13.5 | 8.9 | 6.3 | 106.4 | 66.1 | 36.5 | 24.0 | 17.1 |

NOTE: Tuition data are for academic years beginning 1975–91 and family income data are for calendar years 1975–91.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, table 301. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Money Income of Families and Persons: March...," various years, based on the March supplement to the Current Population Survey.

## Table 9-2 Average undergraduate tuition, room, and board (in constant 1992 dollars) and as a percentage of the income of all families at selected family income percentiles, by control of institution: 1964–91

| Year | Public institutions | | | | Private institutions | | | |
|---|---|---|---|---|---|---|---|---|
| | Constant dollars | Family income percentile | | | Constant dollars | Family income percentile | | |
| | | 20th | 50th | 80th | | 20th | 50th | 80th |
| 1964 | $4,297 | 29.0 | 14.4 | 9.2 | $8,626 | 58.3 | 28.8 | 18.6 |
| 1965 | 4,377 | 27.7 | 14.0 | 9.0 | 8,928 | 56.6 | 28.5 | 18.3 |
| 1966 | 4,449 | 25.6 | 13.4 | 8.7 | 9,209 | 53.1 | 27.7 | 17.9 |
| 1967 | 4,475 | 25.5 | 13.2 | 8.5 | 9,274 | 52.8 | 27.3 | 17.6 |
| 1968 | 4,505 | 24.0 | 12.6 | 8.1 | 9,362 | 49.8 | 26.2 | 16.9 |
| 1969 | 4,601 | 23.4 | 12.4 | 7.9 | 9,676 | 49.1 | 26.0 | 16.7 |
| 1970 | 4,651 | 24.7 | 12.7 | 8.1 | 9,894 | 52.5 | 27.1 | 17.2 |
| 1971 | 4,702 | 25.6 | 13.0 | 8.2 | 10,107 | 55.1 | 27.9 | 17.7 |
| 1972 | 4,892 | 25.4 | 12.8 | 8.0 | 10,193 | 52.9 | 26.7 | 16.7 |
| 1973 | 4,794 | 23.8 | 12.0 | 7.5 | 9,998 | 49.5 | 25.0 | 15.6 |
| 1974 | 4,447 | 22.5 | 11.5 | 7.2 | 9,683 | 48.9 | 25.1 | 15.7 |
| 1975 | 4,343 | 23.4 | 11.8 | 7.3 | 9,549 | 51.4 | 25.9 | 16.1 |
| 1976 | 4,411 | 23.3 | 11.6 | 7.3 | 9,630 | 50.9 | 25.3 | 15.8 |
| 1977 | 4,370 | 23.1 | 11.4 | 7.0 | 9,625 | 50.9 | 25.1 | 15.5 |
| 1978 | 4,289 | 21.8 | 10.8 | 6.6 | 9,708 | 49.3 | 24.4 | 15.0 |
| 1979 | 4,185 | 20.7 | 10.3 | 6.4 | 9,496 | 46.9 | 23.4 | 14.6 |
| 1980 | 4,040 | 21.9 | 10.7 | 6.5 | 9,313 | 50.6 | 24.7 | 15.1 |
| 1981 | 4,109 | 23.6 | 11.5 | 6.9 | 9,514 | 54.6 | 26.6 | 15.9 |
| 1982 | 4,282 | 25.9 | 12.4 | 7.2 | 10,061 | 60.7 | 29.0 | 17.0 |
| 1983 | 4,446 | 26.4 | 12.5 | 7.4 | 10,576 | 62.9 | 29.8 | 17.5 |
| 1984 | 4,603 | 26.8 | 12.7 | 7.4 | 11,077 | 64.5 | 30.5 | 17.8 |
| 1985 | 4,658 | 26.8 | 12.7 | 7.4 | 11,589 | 66.6 | 31.7 | 18.3 |
| 1986 | 4,870 | 27.0 | 12.7 | 7.4 | 12,385 | 68.7 | 32.4 | 18.9 |
| 1987 | 5,001 | 27.5 | 12.9 | 7.5 | 12,980 | 71.4 | 33.4 | 19.5 |
| 1988 | 5,071 | 27.6 | 13.0 | 7.5 | 13,274 | 72.3 | 33.9 | 19.5 |
| 1989 | 5,097 | 27.5 | 12.9 | 7.4 | 13,601 | 73.3 | 34.3 | 19.7 |
| 1990 | 5,108 | 27.6 | 13.1 | 7.5 | 13,863 | 74.8 | 35.6 | 20.5 |
| 1991 | 5,337 | 30.0 | 14.2 | 8.1 | 14,404 | 81.1 | 38.3 | 21.9 |

NOTE: Tuition data are for academic years beginning 1964–91 and family income data are for calendar years 1964–91. The calandar year Consumer Price Index was used to calculate constant dollar figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992, table 301. U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, based on the March supplement to the Current Population Survey.

## Table 10-1 Average total, net, and adjusted net cost of college attendance and expected family contribution (EFC) for dependent, full-time fall undergraduate college students, by type and control of institution and family income: 1989–90

| | Tuition and fees | Expected family contribution[1] | Total cost[2] | Net cost[3] | Adjusted net cost[4] | Average percent of total cost met by: | |
|---|---|---|---|---|---|---|---|
| | | | | | | Aid[3] | Adjusted aid[4] |
| **Total** | **$3,780** | **$8,337** | **$8,444** | **$6,286** | **$5,958** | **27.0** | **17.7** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 873 | 6,613 | 5,049 | 4,485 | 4,237 | 14.9 | 11.1 |
| Public, 4-year | 2,217 | 8,471 | 7,148 | 5,678 | 5,358 | 25.0 | 15.6 |
| Private, 2-year | 4,513 | 6,709 | 8,038 | 5,572 | 5,063 | 35.2 | 24.3 |
| Private, 4-year | 9,072 | 10,164 | 13,955 | 9,174 | 8,713 | 38.5 | 26.7 |
| Private, for-profit | 4,932 | 4,336 | 9,479 | 6,090 | 5,365 | 43.3 | 23.8 |
| Family income | | | | | | | |
| Low | 3,381 | 2,288 | 7,974 | 4,159 | 3,455 | 52.6 | 38.9 |
| Lower middle | 3,221 | 4,768 | 7,648 | 5,374 | 5,393 | 28.8 | 18.2 |
| Upper middle | 3,611 | 8,650 | 7,999 | 6,173 | 6,259 | 21.2 | 11.9 |
| High | 4,894 | 17,758 | 10,042 | 9,014 | 8,687 | 10.0 | 5.8 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | | | | | | | |
| Low | 806 | 2,252 | 5,190 | 3,962 | 3,327 | 34.4 | 28.1 |
| Lower middle | 916 | 4,769 | 4,947 | 4,371 | 4,372 | 13.3 | 8.7 |
| Upper middle | 926 | 8,564 | 4,880 | 4,612 | 4,617 | 7.9 | 5.1 |
| High | 824 | 13,847 | 5,237 | 5,152 | 4,798 | 1.5 | 1.0 |
| Public, 4-year | | | | | | | |
| Low | 2,026 | 2,270 | 6,963 | 3,813 | 3,206 | 54.5 | 39.7 |
| Lower middle | 2,131 | 4,817 | 6,828 | 5,285 | 5,112 | 26.8 | 16.1 |
| Upper middle | 2,188 | 8,825 | 6,831 | 5,753 | 5,761 | 18.2 | 8.9 |
| High | 2,509 | 17,518 | 7,913 | 7,372 | 7,141 | 8.3 | 4.1 |
| Private, 2-year | | | | | | | |
| Low | 4,187 | 2,294 | 7,628 | 3,211 | 2,518 | 65.0 | 49.8 |
| Lower middle | 4,066 | 4,581 | 7,503 | 5,211 | 4,816 | 32.9 | 21.7 |
| Upper middle | 4,590 | 6,781 | 7,856 | 5,852 | 5,936 | 27.9 | 17.0 |
| High | 5,563 | 17,025 | 9,531 | 8,606 | 8,251 | 11.4 | 6.1 |
| Private, 4-year | | | | | | | |
| Low | 8,084 | 2,570 | 12,867 | 5,076 | 4,279 | 65.3 | 48.4 |
| Lower middle | 8,465 | 4,824 | 13,011 | 6,757 | 7,124 | 52.1 | 36.2 |
| Upper middle | 8,805 | 8,581 | 13,407 | 8,476 | 8,562 | 38.5 | 25.2 |
| High | 10,300 | 19,979 | 15,471 | 13,274 | 12,775 | 16.1 | 10.6 |
| Private, for-profit | | | | | | | |
| Low | 4,697 | 1,685 | 8,646 | 4,520 | 3,173 | 56.7 | 37.5 |
| Lower middle | 5,085 | 3,876 | 10,004 | 6,464 | 6,873 | 41.9 | 19.2 |
| Upper middle | 4,931 | 7,476 | 9,903 | 7,259 | 7,629 | 30.9 | 10.7 |
| High | 5,894 | 13,530 | 10,907 | 9,517 | 8,527 | 15.1 | 5.2 |

## Table 10-1 Average total, net, and adjusted net cost of college attendance and expected family contribution (EFC) for dependent, full-time fall undergraduate college students, by type and control of institution and family income: 1989–90—Continued

| | Number of dependent full-time fall undergraduates | Ratio of net cost to EFC[1] | | | Ratio of adjusted net cost to EFC | | |
|---|---|---|---|---|---|---|---|
| | | Average | Percent greater than 1.0 | Percent greater than 1.5 | Average | Percent greater than 1.0 | Percent greater than 1.5 |
| **Total** | **5,093,616** | **1.84** | **43.6** | **31.2** | **1.70** | **44.9** | **32.8** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 974,623 | 1.74 | 43.4 | 31.5 | 1.62 | 42.3 | 30.4 |
| Public, 4-year | 2,604,799 | 1.59 | 40.4 | 28.7 | 1.48 | 41.2 | 29.5 |
| Private, 2-year | 69,063 | 1.68 | 44.5 | 32.7 | 1.51 | 44.0 | 33.0 |
| Private, 4-year | 1,242,224 | 2.36 | 48.5 | 34.1 | 2.19 | 52.9 | 38.9 |
| Private, for-profit | 202,907 | 2.57 | 59.2 | 46.3 | 2.10 | 57.4 | 47.9 |
| Family income | | | | | | | |
| Low | 1,262,886 | 2.62 | 62.3 | 50.5 | 2.09 | 57.5 | 48.3 |
| Lower middle | 1,237,470 | 1.90 | 52.8 | 37.8 | 1.89 | 56.1 | 40.6 |
| Upper middle | 1,323,442 | 1.20 | 34.3 | 18.8 | 1.19 | 37.6 | 21.2 |
| High | 1,266,125 | 1.78 | 28.9 | 21.7 | 1.67 | 28.7 | 21.4 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | 974,623 | | | | | | |
| Low | 262,734 | 2.72 | 63.4 | 51.4 | 2.24 | 55.9 | 45.7 |
| Lower middle | 291,985 | 1.65 | 47.0 | 34.1 | 1.65 | 48.7 | 33.8 |
| Upper middle | 247,866 | 0.92 | 30.0 | 14.3 | 0.91 | 30.3 | 14.5 |
| High | 170,876 | 1.78 | 29.6 | 25.7 | 1.65 | 27.5 | 23.9 |
| Public, 4-year | 2,604,799 | | | | | | |
| Low | 600,698 | 2.28 | 59.6 | 47.7 | 1.86 | 55.5 | 45.5 |
| Lower middle | 640,080 | 1.82 | 52.3 | 36.6 | 1.73 | 54.4 | 37.8 |
| Upper middle | 709,108 | 1.10 | 30.7 | 16.8 | 1.09 | 32.3 | 17.7 |
| High | 653,839 | 1.36 | 25.0 | 19.6 | 1.29 | 24.5 | 19.4 |
| Private, 2-year | 69,063 | | | | | | |
| Low | 20,145 | 1.94 | 53.9 | 43.9 | 1.54 | 48.4 | 42.4 |
| Lower middle | 18,701 | 1.80 | 51.2 | 37.0 | 1.60 | 50.1 | 36.1 |
| Upper middle | 17,505 | 1.30 | 39.5 | 26.4 | 1.29 | 42.4 | 27.3 |
| High | 12,606 | 1.73 | 29.6 | 20.7 | 1.61 | 29.4 | 20.4 |
| Private, 4-year | 1,242,224 | | | | | | |
| Low | 280,707 | 3.06 | 65.0 | 52.6 | 2.46 | 63.2 | 55.1 |
| Lower middle | 240,752 | 2.37 | 58.8 | 43.7 | 2.45 | 67.8 | 52.6 |
| Upper middle | 307,776 | 1.65 | 45.7 | 26.4 | 1.62 | 53.4 | 32.9 |
| High | 411,925 | 2.48 | 35.0 | 23.5 | 2.29 | 36.2 | 23.9 |
| Private, for-profit | 202,907 | | | | | | |
| Low | 98,602 | 3.42 | 70.3 | 60.8 | 2.21 | 58.9 | 53.8 |
| Lower middle | 45,952 | 2.45 | 68.1 | 51.5 | 2.64 | 69.0 | 60.1 |
| Upper middle | 41,187 | 1.42 | 41.2 | 24.7 | 1.53 | 53.8 | 31.5 |
| High | 16,879 | 1.79 | 26.4 | 17.5 | 1.42 | 24.5 | 18.3 |

[1] Expected family contribution is defined using the Congressional Methodology. See supplemental note to *Indicator 10.*

[2] Total cost includes tuition and fees, room and board, books, transportation, and other miscellaneous expenses.

[3] Net cost is total cost less student financial aid including grants, loans, and work-study earnings.

[4] Adjusted net cost is total cost less grant aid and 40 percent of loan amounts. This adjustment is based on the estimate that each dollar of student loan has 40 cents of subsidy and the position that work-study earnings should not be regarded as aid because it requires the student to work.

NOTE: Categories of family income are defined based on the quartiles of family income for all dependent undergraduate college students. Low income is defined as incomes less than $22,030; lower middle income, between $22,030 and $37,767; upper middle income, between $37,768 and $58,946; and high income, above $58,946.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Table 10-2 Average total, net, and adjusted net cost of college attendance and expected family contribution (EFC) for dependent, full-time fall undergraduate college students, by type and control of institution and family income: 1986–87

| | Tuition and fees | Expected family contribution[1] | Total cost[2] | Net cost[3] | Adjusted net cost[4] | Average percent of total cost met by: | |
|---|---|---|---|---|---|---|---|
| | | | | | | Aid[3] | Adjusted aid[4] |
| **Total** | **$2,641** | **$9,320** | **$5,358** | **$3,416** | **$3,995** | **37.7** | **25.2** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 589 | 6,951 | 2,359 | 1,714 | 1,867 | 29.4 | 21.4 |
| Public, 4-year | 1,566 | 9,560 | 4,264 | 2,908 | 3,339 | 34.9 | 22.4 |
| Private, 2-year | 3,035 | 7,002 | 5,733 | 3,220 | 3,899 | 50.0 | 36.2 |
| Private, 4-year | 6,262 | 11,880 | 9,937 | 5,994 | 7,130 | 43.7 | 30.6 |
| Private, for-profit | 3,609 | 4,037 | 5,484 | 2,497 | 3,633 | 66.6 | 39.9 |
| Family income | | | | | | | |
| Low | 2,221 | 1,857 | 4,860 | 1,770 | 2,524 | 69.2 | 51.5 |
| Lower middle | 2,390 | 4,289 | 4,938 | 2,664 | 3,369 | 43.4 | 27.7 |
| Upper middle | 2,564 | 8,470 | 5,237 | 3,671 | 4,213 | 26.6 | 15.8 |
| High | 3,356 | 22,081 | 6,351 | 5,424 | 5,772 | 13.6 | 7.7 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | | | | | | | |
| Low | 549 | 2,254 | 2,510 | 1,275 | 1,518 | 56.9 | 45.1 |
| Lower middle | 631 | 4,978 | 2,317 | 1,735 | 1,910 | 25.6 | 16.2 |
| Upper middle | 585 | 8,714 | 2,264 | 2,033 | 2,106 | 10.5 | 6.1 |
| High | 602 | 19,589 | 2,257 | 2,150 | 2,192 | 5.9 | 3.6 |
| Public, 4-year | | | | | | | |
| Low | 1,467 | 1,759 | 4,323 | 1,577 | 2,283 | 71.1 | 52.0 |
| Lower middle | 1,490 | 4,306 | 4,098 | 2,482 | 3,030 | 42.9 | 26.2 |
| Upper middle | 1,603 | 8,804 | 4,240 | 3,265 | 3,637 | 24.3 | 13.5 |
| High | 1,667 | 20,920 | 4,384 | 3,939 | 4,125 | 10.9 | 5.3 |
| Private, 2-year | | | | | | | |
| Low | 3,001 | 1,434 | 5,502 | 1,851 | 2,620 | 75.3 | 59.2 |
| Lower middle | 2,802 | 3,236 | 5,354 | 2,571 | 3,393 | 55.6 | 38.5 |
| Upper middle | 3,013 | 8,003 | 5,823 | 3,981 | 4,641 | 34.1 | 21.4 |
| High | 3,466 | 21,311 | 6,555 | 5,508 | 5,854 | 19.7 | 13.2 |
| Private, 4-year | | | | | | | |
| Low | 5,721 | 1,815 | 9,205 | 3,054 | 4,478 | 73.0 | 55.6 |
| Lower middle | 5,964 | 3,788 | 9,509 | 4,086 | 5,579 | 59.6 | 42.1 |
| Upper middle | 6,167 | 7,705 | 9,795 | 5,894 | 7,152 | 42.3 | 27.8 |
| High | 6,795 | 24,995 | 10,679 | 8,766 | 9,456 | 19.6 | 12.4 |
| Private, for-profit | | | | | | | |
| Low | 3,300 | 1,330 | 5,080 | 1,422 | 2,547 | 87.5 | 57.5 |
| Lower middle | 3,791 | 3,269 | 5,735 | 2,795 | 4,173 | 59.9 | 31.5 |
| Upper middle | 3,869 | 6,964 | 5,794 | 3,604 | 4,682 | 42.9 | 20.8 |
| High | 4,160 | 15,638 | 6,171 | 4,962 | 5,640 | 25.0 | 11.4 |

## Table 10-2 Average total, net, and adjusted net cost of college attendance and expected family contribution (EFC) for dependent, full-time fall undergraduate college students, by type and control of institution and family income: 1986–87—Continued

| | Number of dependent full-time fall undergraduates | Ratio of net cost to EFC[1] | | | Ratio of adjusted net cost to EFC | | |
|---|---|---|---|---|---|---|---|
| | | Average | Percent greater than 1.0 | Percent greater than 1.5 | Average | Percent greater than 1.0 | Percent greater than 1.5 |
| **Total** | **5,289,366** | **0.93** | **27.3** | **18.7** | **1.25** | **34.2** | **24.5** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 1,042,449 | 0.71 | 21.7 | 14.9 | 0.82 | 23.6 | 16.4 |
| Public, 4-year | 2,646,216 | 0.80 | 23.4 | 16.2 | 1.05 | 29.3 | 20.9 |
| Private, 2-year | 77,715 | 1.16 | 32.9 | 23.5 | 1.58 | 42.1 | 30.5 |
| Private, 4-year | 1,280,743 | 1.31 | 37.3 | 24.6 | 1.84 | 48.9 | 34.7 |
| Private, for-profit | 242,243 | 1.25 | 37.9 | 30.1 | 2.08 | 52.4 | 42.5 |
| Family income | | | | | | | |
| Low | 1,281,470 | 1.55 | 47.7 | 39.0 | 2.33 | 59.3 | 49.7 |
| Lower middle | 1,271,431 | 1.09 | 35.7 | 24.2 | 1.45 | 45.3 | 32.1 |
| Upper middle | 1,389,140 | 0.71 | 19.7 | 10.1 | 0.85 | 24.8 | 13.9 |
| High | 1,346,869 | 0.42 | 7.6 | 3.1 | 0.45 | 9.3 | 3.9 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | 1,042,449 | | | | | | |
| Low | 339,710 | 1.10 | 40.2 | 28.7 | 1.34 | 44.4 | 31.8 |
| Lower middle | 309,169 | 0.72 | 20.7 | 13.6 | 0.81 | 21.8 | 14.5 |
| Upper middle | 252,912 | 0.47 | 9.5 | 6.0 | 0.49 | 9.9 | 6.6 |
| High | 140,659 | 0.18 | 1.4 | 0.7 | 0.18 | 1.4 | 0.7 |
| Public, 4-year | 2,646,216 | | | | | | |
| Low | 562,887 | 1.38 | 48.1 | 39.9 | 2.08 | 59.9 | 50.4 |
| Lower middle | 606,563 | 1.06 | 34.6 | 22.5 | 1.34 | 44.2 | 29.7 |
| Upper middle | 757,512 | 0.61 | 14.3 | 6.9 | 0.71 | 17.9 | 9.2 |
| High | 719,254 | 0.32 | 4.0 | 1.9 | 0.34 | 4.4 | 2.1 |
| Private, 2-year | 77,715 | | | | | | |
| Low | 25,013 | 1.83 | 50.5 | 42.5 | 2.66 | 63.8 | 54.6 |
| Lower middle | 18,428 | 1.23 | 38.2 | 26.2 | 1.69 | 51.0 | 34.7 |
| Upper middle | 21,221 | 0.74 | 23.5 | 11.2 | 0.90 | 30.1 | 14.9 |
| High | 13,052 | 0.45 | 6.9 | 3.2 | 0.49 | 7.5 | 3.7 |
| Private, 4-year | 1,280,743 | | | | | | |
| Low | 240,514 | 2.56 | 58.1 | 50.8 | 4.02 | 76.3 | 69.9 |
| Lower middle | 270,606 | 1.55 | 52.6 | 38.0 | 2.27 | 70.5 | 53.7 |
| Upper middle | 316,963 | 1.13 | 39.9 | 20.2 | 1.43 | 51.9 | 30.1 |
| High | 452,661 | 0.63 | 15.2 | 5.7 | 0.70 | 19.2 | 7.7 |
| Private, for-profit | 242,243 | | | | | | |
| Low | 113,346 | 1.53 | 45.6 | 39.6 | 2.79 | 64.0 | 56.3 |
| Lower middle | 66,665 | 1.27 | 44.2 | 31.6 | 1.94 | 58.9 | 45.3 |
| Upper middle | 40,532 | 0.77 | 21.6 | 14.1 | 1.02 | 30.3 | 18.6 |
| High | 21,243 | 0.54 | 7.6 | 4.0 | 0.60 | 10.3 | 4.7 |

[1] Expected family contribution is defined using the Uniform Methodology. See supplemental note to *Indicator 10.*

[2] Total cost includes tuition and fees, room and board, books, transportation, and other miscellaneous expenses.

[3] Net cost is total cost less student financial aid including grants, loans, and work-study earnings.

[4] Adjusted net cost is total cost less grant aid and 40 percent of loan amounts. This adjustment is based on the estimate that each dollar of student loan has 40 cents of subsidy and the position that work-study earnings should not be regarded as aid because it requires the student to work.

NOTE: Categories of family income are defined based on the quartiles of family income for all dependent undergraduate college students. Low income is defined as incomes less than $19,935; lower middle income, between $19,935 and $33,946; upper middle income, between $33,947 and $50,507; and high income, above $50,507.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1987.

## Table 10-3 Standard errors for estimated statistics in table 10-1

| | Tuition and fees | Expected family contribution | Total cost | Net cost | Adjusted net cost | Average percent of total cost met by: | |
|---|---|---|---|---|---|---|---|
| | | | | | | Aid | Adjusted aid |
| **Total** | **$134** | **$166** | **$145** | **$115** | **$106** | **0.7** | **0.5** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 55 | 322 | 122 | 126 | 135 | 1.4 | 1.2 |
| Public, 4-year | 97 | 234 | 110 | 120 | 108 | 1.0 | 0.7 |
| Private, 2-year | 452 | 587 | 582 | 495 | 434 | 3.4 | 2.2 |
| Private, 4-year | 275 | 351 | 327 | 304 | 262 | 1.1 | 0.8 |
| Private, for-profit | 204 | 251 | 266 | 251 | 318 | 1.7 | 1.2 |
| Family income | | | | | | | |
| Low | 108 | 55 | 135 | 100 | 106 | 1.3 | 1.1 |
| Lower middle | 107 | 104 | 132 | 103 | 100 | 1.0 | 0.7 |
| Upper middle | 124 | 154 | 139 | 100 | 98 | 0.8 | 0.5 |
| High | 255 | 345 | 267 | 245 | 241 | 0.5 | 0.3 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | | | | | | | |
| Low | 74 | 161 | 232 | 259 | 269 | 3.8 | 3.3 |
| Lower middle | 64 | 279 | 217 | 222 | 220 | 1.7 | 1.3 |
| Upper middle | 82 | 532 | 205 | 203 | 205 | 1.5 | 1.2 |
| High | 84 | 1,056 | 278 | 277 | 287 | 0.6 | 0.5 |
| Public, 4-year | | | | | | | |
| Low | 71 | 74 | 121 | 127 | 142 | 1.7 | 1.3 |
| Lower middle | 94 | 142 | 119 | 135 | 122 | 1.5 | 0.9 |
| Upper middle | 88 | 208 | 117 | 125 | 115 | 1.1 | 0.6 |
| High | 166 | 468 | 174 | 169 | 167 | 0.7 | 0.4 |
| Private, 2-year | | | | | | | |
| Low | 420 | 264 | 645 | 619 | 469 | 7.0 | 4.8 |
| Lower middle | 514 | 425 | 661 | 553 | 488 | 3.1 | 2.2 |
| Upper middle | 566 | 435 | 525 | 458 | 515 | 3.9 | 2.7 |
| High | 520 | 1,801 | 699 | 700 | 721 | 2.2 | 1.1 |
| Private, 4-year | | | | | | | |
| Low | 277 | 110 | 333 | 219 | 206 | 1.3 | 1.2 |
| Lower middle | 257 | 162 | 315 | 248 | 226 | 1.5 | 1.2 |
| Upper middle | 267 | 177 | 322 | 227 | 216 | 1.2 | 0.9 |
| High | 324 | 493 | 387 | 407 | 408 | 0.8 | 0.6 |
| Private, for-profit | | | | | | | |
| Low | 240 | 92 | 379 | 336 | 406 | 2.5 | 1.9 |
| Lower middle | 236 | 311 | 354 | 355 | 343 | 2.5 | 1.3 |
| Upper middle | 266 | 355 | 323 | 306 | 355 | 2.1 | 0.9 |
| High | 466 | 1,090 | 558 | 601 | 785 | 2.5 | 1.3 |

## Table 10-3 Standard errors for estimated statistics in table 10-1—Continued

| | Ratio of net cost to EFC | | | Ratio of adjusted net cost to EFC | | |
|---|---|---|---|---|---|---|
| | Average | Percent greater than 1.0 | Percent greater than 1.5 | Average | Percent greater than 1.0 | Percent greater than 1.5 |
| **Total** | **0.04** | **0.7** | **0.6** | **0.03** | **0.6** | **0.5** |
| Type and control of institution | | | | | | |
| Public, 2-year | 0.09 | 1.5 | 1.7 | 0.09 | 1.5 | 1.6 |
| Public, 4-year | 0.05 | 1.0 | 0.8 | 0.04 | 0.8 | 0.8 |
| Private, 2-year | 0.20 | 3.7 | 3.4 | 0.17 | 2.7 | 2.7 |
| Private, 4-year | 0.08 | 0.9 | 0.8 | 0.07 | 0.8 | 0.7 |
| Private, for-profit | 0.20 | 2.2 | 2.9 | 0.21 | 1.9 | 2.3 |
| Family income | | | | | | |
| Low | 0.09 | 1.1 | 1.1 | 0.08 | 1.0 | 1.0 |
| Lower middle | 0.06 | 1.2 | 1.1 | 0.05 | 1.0 | 1.0 |
| Upper middle | 0.03 | 1.0 | 0.7 | 0.03 | 0.9 | 0.8 |
| High | 0.07 | 1.0 | 0.8 | 0.07 | 1.0 | 0.8 |
| Type and control of institution and family income | | | | | | |
| Public, 2-year | | | | | | |
| Low | 0.26 | 3.3 | 3.4 | 0.25 | 3.2 | 3.3 |
| Lower middle | 0.13 | 3.1 | 2.9 | 0.12 | [illegible].9 | 2.8 |
| Upper middle | 0.06 | 2.7 | 2.2 | 0.07 | 2.8 | 2.3 |
| High | 0.26 | 4.0 | 3.9 | 0.26 | 3.8 | 3.8 |
| Public, 4-year | | | | | | |
| Low | 0.10 | 1.5 | 1.5 | 0.10 | 1.4 | 1.4 |
| Lower middle | 0.08 | 1.6 | 1.4 | 0.07 | 1.3 | 1.4 |
| Upper middle | 0.05 | 1.3 | 0.9 | 0.04 | 1.2 | 0.9 |
| High | 0.07 | 1.4 | 1.1 | 0.07 | 1.3 | 1.1 |
| Private, 2-year | | | | | | |
| Low | 0.50 | 6.4 | 6.2 | 0.38 | 4.0 | 3.9 |
| Lower middle | 0.24 | 4.5 | 4.8 | 0.22 | 3.9 | 4.0 |
| Upper middle | 0.19 | 4.6 | 3.9 | 0.17 | 3.9 | 3.9 |
| High | 0.29 | 3.5 | 4.0 | 0.28 | 3.4 | 3.9 |
| Private, 4-year | | | | | | |
| Low | 0.15 | 1.5 | 1.6 | 0.14 | 1.2 | 1.2 |
| Lower middle | 0.12 | 1.6 | 1.5 | 0.11 | 1.4 | 1.4 |
| Upper middle | 0.08 | 1.5 | 1.1 | 0.08 | 1.4 | 1.2 |
| High | 0.13 | 1.1 | 0.9 | 0.13 | 1.1 | 0.9 |
| Private, for-profit | | | | | | |
| Low | 0.28 | 2.6 | 2.9 | 0.37 | 3.2 | 2.8 |
| Lower middle | 0.21 | 3.5 | 4.1 | 0.21 | 2.9 | 3.7 |
| Upper middle | 0.16 | 3.5 | 4.1 | 0.17 | 3.2 | 4.5 |
| High | 0.41 | 5.4 | 3.8 | 0.38 | 4.5 | 4.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Table 10-4 Standard errors for estimated statistics in table 10-2

| | Tuition and fees | Expected family contribution | Total cost | Net cost | Adjusted net cost | Average percent of total cost met by: | |
|---|---|---|---|---|---|---|---|
| | | | | | | Aid | Adjusted aid |
| **Total** | **$88** | **$191** | **$111** | **$81** | **$87** | **0.8** | **0.6** |
| Type and control of institution | | | | | | | |
| Public, 2-year | 40 | 326 | 73 | 72 | 72 | 2.0 | 1.5 |
| Public, 4-year | 60 | 256 | 90 | 76 | 84 | 1.1 | 0.8 |
| Private, 2-year | 284 | 854 | 436 | 314 | 350 | 3.5 | 2.8 |
| Private, 4-year | 211 | 449 | 258 | 213 | 214 | 1.4 | 1.0 |
| Private, for-profit | 152 | 189 | 178 | 175 | 186 | 2.3 | 1.7 |
| Family income | | | | | | | |
| Low | 68 | 63 | 90 | 63 | 64 | 1.5 | 1.2 |
| Lower middle | 75 | 91 | 102 | 58 | 66 | 1.2 | 0.8 |
| Upper middle | 90 | 107 | 119 | 77 | 88 | 0.8 | 0.5 |
| High | 155 | 357 | 194 | 169 | 176 | 0.6 | 0.4 |
| Type and control of institution and family income | | | | | | | |
| Public, 2-year | | | | | | | |
| Low | 41 | 179 | 106 | 116 | 113 | 4.0 | 3.6 |
| Lower middle | 46 | 284 | 101 | 102 | 98 | 3.0 | 2.0 |
| Upper middle | 44 | 340 | 107 | 100 | 104 | 1.6 | 1.0 |
| High | 72 | 1,453 | 168 | 167 | 169 | 1.9 | 1.7 |
| Public, 4-year | | | | | | | |
| Low | 50 | 74 | 91 | 77 | 81 | 1.8 | 1.4 |
| Lower middle | 50 | 110 | 88 | 72 | 80 | 1.7 | 1.1 |
| Upper middle | 57 | 144 | 92 | 77 | 87 | 1.1 | 0.7 |
| High | 106 | 373 | 163 | 154 | 159 | 0.8 | 0.5 |
| Private, 2-year | | | | | | | |
| Low | 267 | 148 | 376 | 274 | 287 | 4.0 | 3.5 |
| Lower middle | 310 | 204 | 484 | 333 | 335 | 5.7 | 4.3 |
| Upper middle | 295 | 477 | 470 | 358 | 389 | 3.9 | 2.6 |
| High | 379 | 2,244 | 640 | 598 | 614 | 3.1 | 2.2 |
| Private, 4-year | | | | | | | |
| Low | 210 | 123 | 244 | 199 | 191 | 2.6 | 2.0 |
| Lower middle | 200 | 92 | 256 | 157 | 157 | 1.8 | 1.4 |
| Upper middle | 227 | 159 | 288 | 196 | 208 | 1.5 | 1.2 |
| High | 238 | 664 | 282 | 269 | 270 | 0.9 | 0.6 |
| Private, for-profit | | | | | | | |
| Low | 136 | 58 | 164 | 158 | 163 | 2.8 | 2.0 |
| Lower middle | 183 | 159 | 226 | 204 | 208 | 2.8 | 1.7 |
| Upper middle | 245 | 245 | 305 | 264 | 284 | 3.2 | 1.8 |
| High | 300 | 951 | 414 | 417 | 394 | 3.9 | 2.1 |

## Table 10-4 Standard errors for estimated statistics in table 10-2—Continued

| | Ratio of net cost to EFC | | | Ratio of adjusted net cost to EFC | | |
|---|---|---|---|---|---|---|
| | Average | Percent greater than 1.0 | Percent greater than 1.5 | Average | Percent greater than 1.0 | Percent greater than 1.5 |
| **Total** | **0.02** | **0.6** | **0.5** | **0.03** | **0.7** | **0.6** |
| Type and control of institution | | | | | | |
| Public, 2-year | 0.05 | 1.4 | 1.1 | 0.05 | 1.4 | 1.1 |
| Public, 4-year | 0.03 | 0.7 | 0.6 | 0.03 | 0.9 | 0.8 |
| Private, 2-year | 0.13 | 2.8 | 2.2 | 0.13 | 3.3 | 2.5 |
| Private, 4-year | 0.05 | 1.0 | 0.9 | 0.06 | 1.2 | 1.1 |
| Private, for-profit | 0.10 | 2.1 | 1.9 | 0.11 | 1.9 | 1.9 |
| Family income | | | | | | |
| Low | 0.06 | 1.0 | 1.0 | 0.07 | 1.1 | 1.1 |
| Lower middle | 0.03 | 1.0 | 0.8 | 0.04 | 1.1 | 1.0 |
| Upper middle | 0.02 | 0.8 | 0.5 | 0.03 | 0.9 | 0.7 |
| High | 0.01 | 0.5 | 0.3 | 0.02 | 0.6 | 0.3 |
| Type and control of institution and family income | | | | | | |
| Public, 2-year | | | | | | |
| Low | 0.12 | 2.5 | 2.3 | 0.11 | 2.6 | 2.3 |
| Lower middle | 0.08 | 2.5 | 2.1 | 0.08 | 2.5 | 2.1 |
| Upper middle | 0.05 | 1.7 | 1.4 | 0.05 | 1.8 | 1.4 |
| High | 0.02 | 0.9 | 0.7 | 0.02 | 0.9 | 0.7 |
| Public, 4-year | | | | | | |
| Low | 0.08 | 1.4 | 1.5 | 0.09 | 1.4 | 1.5 |
| Lower middle | 0.04 | 1.2 | 1.1 | 0.04 | 1.5 | 1.3 |
| Upper middle | 0.02 | 0.8 | 0.6 | 0.03 | 1.0 | 0.7 |
| High | 0.02 | 0.5 | 0.3 | 0.02 | 0.5 | 0.3 |
| Private, 2-year | | | | | | |
| Low | 0.28 | 3.9 | 3.8 | 0.28 | 3.9 | 3.9 |
| Lower middle | 0.21 | 3.7 | 3.3 | 0.20 | 4.3 | 4.0 |
| Upper middle | 0.09 | 3.7 | 2.4 | 0.09 | 4.2 | 2.8 |
| High | 0.09 | 2.3 | 1.6 | 0.09 | 2.4 | 1.5 |
| Private, 4-year | | | | | | |
| Low | 0.19 | 2.0 | 1.9 | 0.18 | 2.0 | 2.0 |
| Lower middle | 0.09 | 1.7 | 1.8 | 0.09 | 1.7 | 1.9 |
| Upper middle | 0.06 | 1.7 | 1.2 | 0.06 | 1.9 | 1.6 |
| High | 0.03 | 1.0 | 0.6 | 0.03 | 1.1 | 0.7 |
| Private, for-profit | | | | | | |
| Low | 0.18 | 2.8 | 2.7 | 0.19 | 2.5 | 2.5 |
| Lower middle | 0.11 | 3.3 | 2.9 | 0.12 | 3.6 | 3.4 |
| Upper middle | 0.09 | 3.0 | 2.8 | 0.10 | 3.1 | 2.8 |
| High | 0.11 | 2.8 | 2.0 | 0.11 | 3.0 | 2.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1987.

## Note on net cost of college attendance

A variety of statistics about the cost of college attendance are calculated in the indicator. All were based on estimates of 1) the total cost of college attendance, 2) student financial aid, and 3) expected family contribution. Based on these quantities a variety of other statistics were calculated to illuminate issues of postsecondary access and choice, that is whether college is affordable.

All statistics were calculated from data collected by the National Postsecondary Student Aid Studies of 1987 (NPSAS:87) and 1990 (NPSAS:90). The statistics were calculated for a subsample of students in these two studies—those who were enrolled full-time in the fall, were classified as dependent students, and were undergraduates.

Changes in the methodology of conducting these two studies make it difficult to compare statistics calculated in the two. NPSAS:87 was based on a sample of students enrolled in the fall, whereas NPSAS:90 was based on a sample of students enrolled any time between July 1, 1989 and June 30, 1990. To help comparisons between the two years, statistics based on NPSAS:90 are restricted to those students enrolled in the fall. Other changes between the two years and two studies are mentioned while defining the central terms of the indicator.

*Expected family contribution.* Before a student gets any financial aid, a "needs analysis" is performed to find out what the student, and parents of dependent students, should and can pay. This amount is called the expected family contribution (EFC), and is determined through an analysis of need based on taxable and nontaxable income and assets as well as family size, the number of family members attending postsecondary institutions, extraordinary medical expenses, and so forth. For dependent students the EFC consists of both a parental contribution and a separately calculated student contribution. Most students are considered dependent until they are 24 years old. The minimum student contribution in 1988-89 was $700 for freshman and $900 for other undergraduates. The Uniform Methodology (UM) was the needs analysis system that was in widespread use during the 1986-87 academic year, when NPSAS:87 was conducted. In 1988-89, the Congressional Methodology (CM) was mandated for use by the federal government in awarding campus-based aid and Stafford Loans, and at this time most users switched to the CM. Therefore, the Congressional Methodology was the needs analysis system in use during the 1989-90 academic year, when NPSAS:90 was conducted. However, the CM largely copies the UM. In both NPSAS:87 and NPSAS:90, the expected family contribution was collected from institution records for students receiving financial aid, and estimated based on other information for students not receiving financial aid. In NPSAS:90, the average EFC was somewhat lower than in NPSAS:87.

*Total cost of attendance.* For the purposes of the indicator, this is the cost actually incurred as opposed to budgeted cost as estimated by institutions for calculating financial aid. For most items, estimates of actual cost are based on reports by the student. However, tuition and fees paid, are usually taken from institutional records.

Some analysts believe that students underestimate their costs. However, possibly more important for comparisons over time are the differences in methodologies used for NPSAS:90 and NPSAS:87. The former was conducted using telephone interviews; the later, using mail questionnaires. Also, the organization and structure of the questions in the NPSAS:90 interview were different than in the NPSAS:87 mail questionnaire. The difference between estimated non-tuition costs in the 1987 and 1990 surveys is far greater than the change in the consumer price index or the differences in estimated tuition charges.

On the other hand, institutional budgets are only available for aided students. In NPSAS:90 institutional (Congressional Methodology) budgets were similar to the student reported costs, whereas in NPSAS:87 institutional

(Uniform Methodology) budgets were substantially below the student reported cost. For these reasons, the reader is cautioned to limit comparisons between NPSAS:90 and NPSAS:87 to statistics that are not based on total cost of attendance.

*Aid and net cost.* Net cost is total cost less student financial aid. For purposes of the indicator, financial aid is defined to include grants and loans (to the student) whether they are from Federal, State, Institutional, or other source. Also included are earnings from work-study programs. Work-study is a generic term for programs designed to provide part-time employment as a source of funds to pay for postsecondary institutions. Net cost represents what the student and his or her parents must pay in the current year to attend a postsecondary institution.

*Adjusted aid and adjusted net cost.* Adjusted net cost is total cost less adjusted aid. Adjusted aid includes grants and 40 percent of loans. Grants, also known as scholarships, are funds for postsecondary education that do not have to be repaid. On the other hand, loans are borrowed money that must be repaid. Thus, for some purposes, combining dollars of grants and dollars of loans may not be appropriate. Student loans usually do not accrue interest while the student is still enrolled in college, and after the student leaves college interest accrues at a rate that is lower than what can normally be obtained from banks for a non-secured loan (mortgages and automobile loans are secured). For each dollar of loan a student receives, the present value of what must be repaid is approximately 60 cents (40 cents is equivalent to a grant). The third component of aid, work-study earnings, requires the student to work and thus for some purposes should not be distinguished from earnings from other jobs. Adjusted net cost represents the present value of what the student and his or her parents must pay in the current and future years to attend a postsecondary institution.

## Table 11-1 Average reading proficiency by parents' highest level of education: 1971–90

| Parents' highest level of education | Year | Age 9 |  | Age 13 |  | Age 17 |  |
|---|---|---|---|---|---|---|---|
|  |  | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school | 1971 | [1]10 | 189 | [1]16 | 238 | [1]20 | 261 |
|  | 1975 | [1]10 | 190 | [1]14 | 239 | [1,2]16 | 263 |
|  | 1980 | [2]7 | 194 | [1,2]10 | 239 | [1,2]13 | 262 |
|  | 1984 | [2]6 | [2]195 | [2]9 | 240 | [1,2]12 | [2]269 |
|  | 1988 | [2]5 | 193 | [2]8 | [2]247 | [2]9 | 267 |
|  | 1990 | [2]5 | 193 | [2]8 | 241 | [2]9 | 270 |
| Graduated from high school | 1971 | [1]22 | 208 | 32 | [1]256 | 31 | 283 |
|  | 1975 | [1]24 | 211 | 33 | 255 | [1]34 | 281 |
|  | 1980 | [1,2]25 | [1]213 | 31 | 254 | 32 | [1,2]278 |
|  | 1984 | [2]19 | 209 | [1]35 | 253 | [1]35 | 281 |
|  | 1988 | [2]16 | 211 | 31 | 253 | 30 | 282 |
|  | 1990 | [2]17 | 209 | 31 | [2]251 | 30 | 283 |
| More than high school | 1971 | [1]33 | 224 | [1]38 | 270 | [1]42 | 302 |
|  | 1975 | [1]34 | 222 | [1]40 | 270 | [1]46 | 301 |
|  | 1980 | [2]40 | [1]226 | [2]49 | [1]271 | [1,2]51 | 299 |
|  | 1984 | [1]36 | 223 | [2]45 | 268 | [1,2]50 | 301 |
|  | 1988 | [2]45 | 220 | [2]52 | [2]265 | [2]58 | 300 |
|  | 1990 | [2]42 | 218 | [2]50 | 267 | [2]58 | 300 |

[1] Statistically significant difference from 1990.

[2] Statistically significant difference from 1971.

NOTE: Percentage of students represents the percentage of all students from each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest level of education.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-2 Average reading proficiency and time spent on homework each day: 1984 and 1990

| Amount of homework | Year | Age 9 |  | Age 13 |  | Age 17 |  |
|---|---|---|---|---|---|---|---|
|  |  | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| None | 1984 | 36 | 213 | 23 | 254 | 22 | 276 |
|  | 1990 | 31 | 208 | 21 | 252 | 23 | 274 |
| Didn't do assigned homework | 1984 | 4 | 199 | 4 | 247 | *11 | 287 |
|  | 1990 | 5 | 187 | 5 | 244 | 13 | 288 |
| Less than 1 hour | 1984 | 42 | 218 | 36 | 261 | 26 | 290 |
|  | 1990 | 46 | 214 | 37 | 258 | 28 | 291 |
| 1–2 hours | 1984 | 13 | 216 | 29 | 266 | 27 | 296 |
|  | 1990 | 12 | 214 | 28 | 265 | 25 | 300 |
| More than 2 hours | 1984 | 6 | 201 | 9 | 265 | 13 | 303 |
|  | 1990 | 6 | 194 | 8 | 262 | 12 | 307 |

*Statistically significant difference from 1990.

NOTE: Percentage of students represents the proportion of all students from each subgroup.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-3 Percentage of students ages 9, 13, or 17 scoring at or above the five levels of reading proficiency: 1971–90

| Year | Level 150 | | | Level 200 | | | Level 250 | | | Level 300 | | | Level 350 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Age | | | Age | | | Age | | | Age | | | Age | | |
| | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 |
| 1971 | 91 | 100 | 100 | 59 | 93 | 96 | 16 | 58 | *79 | 1 | 10 | 39 | 0 | 0 | 7 |
| 1975 | *93 | 100 | 100 | 62 | 93 | 96 | *15 | 59 | *80 | 1 | 10 | 39 | 0 | 0 | 6 |
| 1980 | *95 | 100 | 100 | *68 | 95 | 97 | 18 | 61 | 81 | 1 | 11 | 38 | 0 | 0 | *5 |
| 1984 | 92 | 100 | 100 | 62 | 94 | 98 | 17 | 59 | 83 | 1 | 11 | 40 | 0 | 0 | 6 |
| 1988 | 93 | 100 | 100 | 63 | 95 | 99 | 18 | 59 | 86 | 1 | 11 | 41 | 0 | 0 | *5 |
| 1990 | 90 | 100 | 100 | 59 | 94 | 98 | 18 | 59 | 84 | 2 | 11 | 41 | 0 | 0 | 7 |

*Statistically significant difference from 1990.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-4 Trends in the percentages of students at or above five reading levels, by race/ethnicity: 1975 and 1990

| Reading proficiency levels | Age | 1975 | | | | 1990 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| Level 150 | 9 | 93 | 96 | 81 | 81 | 90 | 94 | 77 | 84 |
| | 13 | 100 | 100 | 98 | 100 | 100 | 100 | 99 | 99 |
| | 17 | 100 | 100 | 98 | 99 | 100 | 100 | 100 | 100 |
| Level 200 | 9 | 62 | 69 | 32 | 35 | 59 | 66 | 34 | 41 |
| | 13 | 93 | 96 | *77 | 81 | 94 | 96 | 88 | 86 |
| | 17 | 96 | 99 | *82 | *89 | 98 | 99 | 96 | 96 |
| Level 250 | 9 | 15 | *17 | 2 | 3 | 18 | 23 | 5 | 6 |
| | 13 | 59 | 66 | *25 | 32 | 59 | 65 | 42 | 37 |
| | 17 | 80 | 86 | *43 | *53 | 84 | 88 | 69 | 75 |
| Level 300 | 9 | 1 | 1 | 0 | 0 | 2 | 2 | 0 | 0 |
| | 13 | 10 | 12 | 2 | 2 | 11 | 13 | 5 | 4 |
| | 17 | 39 | 44 | *8 | *13 | 41 | 48 | 20 | 27 |
| Level 350 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 13 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| | 17 | 6 | 7 | 0 | 1 | 7 | 9 | 2 | 2 |

*Statistically significant difference from 1990.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-5 Standard errors for estimated scale scores in text table for *Indicator 11*

| Year | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1971 | 1.0 | 0.9 | 1.7 | — | 0.9 | 0.7 | 1.2 | — | 1.2 | 1.0 | 1.7 | — |
| 1975 | 0.7 | 0.7 | 1.2 | 2.2 | 0.8 | 0.7 | 1.2 | 3.0 | 0.8 | 0.6 | 2.0 | 3.6 |
| 1980 | 1.0 | 0.8 | 1.8 | 2.3 | 0.9 | 0.7 | 1.5 | 2.0 | 1.2 | 0.9 | 1.8 | 2.7 |
| 1984 | 0.7 | 0.8 | 1.1 | 2.1 | 0.5 | 0.6 | 1.0 | 1.7 | 0.6 | 0.7 | 1.0 | 2.2 |
| 1988 | 1.1 | 1.4 | 2.4 | 3.5 | 1.0 | 1.1 | 2.4 | 3.5 | 1.0 | 1.2 | 2.4 | 4.3 |
| 1990 | 1.2 | 1.3 | 2.9 | 2.3 | 0.8 | 0.9 | 2.2 | 2.3 | 1.1 | 1.2 | 2.3 | 3.6 |

| Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1971 | 1.1 | 1.0 | 1.0 | 0.9 | 1.2 | 1.3 |
| 1975 | 0.8 | 0.8 | 0.8 | 0.9 | 1.0 | 1.0 |
| 1980 | 1.1 | 1.1 | 1.1 | 0.9 | 1.3 | 1.2 |
| 1984 | 0.8 | 0.8 | 0.6 | 0.6 | 0.6 | 0.8 |
| 1988 | 1.4 | 1.3 | 1.3 | 1.0 | 1.5 | 1.5 |
| 1990 | 1.7 | 1.2 | 1.1 | 1.1 | 1.6 | 1.2 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-6 Standard errors for estimated percentages and scale scores in table 11-1

| Parents' highest level of education | Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school | 1971 | 0.4 | 1.5 | 0.6 | 1.3 | 0.8 | 1.5 |
| | 1975 | 0.4 | 1.3 | 0.6 | 1.2 | 0.6 | 1.3 |
| | 1980 | 0.5 | 1.6 | 0.6 | 1.1 | 0.7 | 1.5 |
| | 1984 | 0.2 | 1.4 | 0.4 | 0.9 | 0.6 | 1.1 |
| | 1988 | 0.6 | 4.9 | 0.6 | 2.1 | 0.8 | 2.0 |
| | 1990 | 0.5 | 3.2 | 0.6 | 1.8 | 0.6 | 2.8 |
| Graduated from high school | 1971 | 0.5 | 1.2 | 0.7 | 0.8 | 0.8 | 1.2 |
| | 1975 | 0.4 | 0.9 | 0.6 | 0.7 | 0.5 | 1.1 |
| | 1980 | 0.8 | 1.3 | 0.7 | 0.9 | 0.9 | 1.0 |
| | 1984 | 0.6 | 1.0 | 1.1 | 0.7 | 1.1 | 0.7 |
| | 1988 | 0.6 | 2.2 | 1.0 | 1.2 | 1.2 | 1.3 |
| | 1990 | 0.8 | 1.8 | 1.2 | 0.9 | 1.0 | 1.4 |
| More than high school | 1971 | 0.9 | 1.1 | 1.1 | 0.8 | 1.3 | 1.0 |
| | 1975 | 0.7 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 |
| | 1980 | 1.5 | 1.1 | 1.3 | 0.8 | 1.3 | 1.0 |
| | 1984 | 1.0 | 0.9 | 1.1 | 0.7 | 1.2 | 0.7 |
| | 1988 | 1.4 | 1.7 | 1.5 | 1.4 | 1.6 | 1.3 |
| | 1990 | 1.3 | 2.0 | 1.5 | 1.0 | 1.3 | 1.1 |

NOTE: Percentage of students represents the proportion of all students from each subgroup.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973–90, Reading, 1971–90, and Writing, 1984–90*, 1991.

## Table 11-7 Standard errors for estimated percentages and scale scores for table 11-2

| Amount of homework | Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| None | 1984 | 1.3 | 0.9 | 0.8 | 0.8 | 0.9 | 0.7 |
| | 1990 | 1.9 | 1.5 | 1.1 | 1.9 | 1.0 | 2.0 |
| Didn't do assigned homework | 1984 | 0.3 | 2.1 | 0.2 | 1.7 | 0.3 | 1.2 |
| | 1990 | 0.4 | 4.8 | 0.5 | 3.2 | 0.6 | 2.3 |
| Less than 1 hour | 1984 | 1.0 | 0.7 | 0.7 | 0.6 | 0.4 | 0.8 |
| | 1990 | 1.6 | 1.7 | 0.9 | 1.1 | 0.9 | 1.6 |
| 1-2 hours | 1984 | 0.5 | 1.3 | 0.5 | 0.7 | 0.5 | 0.8 |
| | 1990 | 0.6 | 2.8 | 1.0 | 1.6 | 0.7 | 1.4 |
| More than 2 hours | 1984 | 0.2 | 1.8 | 0.3 | 1.2 | 0.6 | 1.1 |
| | 1990 | 0.5 | 3.5 | 0.5 | 2.2 | 0.7 | 2.6 |

NOTE: Percentage of students represents the proportion of all students from each subgroup.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973–90, Reading, 1971–90, and Writing, 1984–90*, 1991.

## Table 11-8 Standard errors for estimated percentages in table 11-3

| Year | Level 150 | | | Level 200 | | | Level 250 | | | Level 300 | | | Level 350 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Age | | | Age | | | Age | | | Age | | | Age | | |
| | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 | 9 | 13 | 17 |
| 1971 | 0.5 | 0.0 | 0.1 | 1.0 | 0.5 | 0.3 | 0.6 | 1.1 | 0.9 | 0.1 | 0.5 | 1.0 | 0.0 | 0.0 | 0.4 |
| 1975 | 0.4 | 0.1 | 0.1 | 0.8 | 0.4 | 0.3 | 0.6 | 1.0 | 0.7 | 0.1 | 0.5 | 0.8 | 0.0 | 0.0 | 0.3 |
| 1980 | 0.4 | 0.0 | 0.1 | 1.0 | 0.4 | 0.3 | 0.8 | 1.1 | 0.9 | 0.1 | 0.5 | 1.1 | 0.0 | 0.0 | 0.4 |
| 1984 | 0.3 | 0.0 | 0.0 | 0.7 | 0.3 | 0.1 | 0.6 | 0.6 | 0.5 | 0.1 | 0.4 | 0.8 | 0.0 | 0.1 | 0.3 |
| 1988 | 0.7 | 0.1 | 0.0 | 1.3 | 0.6 | 0.3 | 1.1 | 1.3 | 0.8 | 0.3 | 0.8 | 1.5 | 0.0 | 0.1 | 0.6 |
| 1990 | 0.9 | 0.1 | 0.1 | 1.3 | 0.6 | 0.3 | 1.0 | 1.0 | 1.0 | 0.3 | 0.6 | 1.0 | 0.1 | 0.1 | 0.5 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 11-9 Standard errors for estimated percentages in table 11-4

| Reading skills and levels | Age | 1975 | | | | 1990 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| Level 150 | 9 | 0.4 | 0.3 | 1.1 | 2.5 | 0.9 | 0.9 | 2.7 | 1.8 |
| | 13 | 0.1 | 0.0 | 0.3 | 0.3 | 0.1 | 0.1 | 0.5 | 0.5 |
| | 17 | 0.1 | 0.0 | 0.8 | 0.4 | 0.1 | 0.0 | 0.8 | 0.0 |
| Level 200 | 9 | 0.8 | 0.8 | 1.5 | 3.0 | 1.3 | 1.4 | 3.4 | 2.7 |
| | 13 | 0.4 | 0.2 | 1.3 | 2.3 | 0.6 | 0.6 | 2.3 | 2.4 |
| | 17 | 0.3 | 0.1 | 1.8 | 2.4 | 0.3 | 0.2 | 1.3 | 2.1 |
| Level 250 | 9 | 0.6 | 0.7 | 0.3 | 0.5 | 1.0 | 1.2 | 1.5 | 2.0 |
| | 13 | 1.0 | 0.9 | 1.6 | 3.6 | 1.0 | 1.2 | 3.5 | 2.9 |
| | 17 | 0.7 | 0.6 | 1.6 | 4.1 | 1.0 | 1.1 | 2.8 | 4.7 |
| Level 300 | 9 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.4 | 0.2 | 0.3 |
| | 13 | 0.5 | 0.5 | 0.3 | 1.0 | 0.6 | 0.9 | 0.8 | 1.2 |
| | 17 | 0.8 | 0.8 | 0.7 | 2.7 | 1.0 | 1.2 | 1.8 | 3.3 |
| Level 350 | 9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| | 13 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.2 |
| | 17 | 0.3 | 0.4 | 0.3 | 0.6 | 0.5 | 0.6 | 1.0 | 1.4 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1970–90, Mathematics, 1973 to 1990, Reading, 1973 to 1990, and Writing, 1984–90*, 1991.

## Table 12-1 Average writing achievement, by type of community: 1984–90

| Type of community | Year | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Advantaged urban | | | | | | | |
| | 1984 | 13 | 197 | 12 | 222 | 16 | 202 |
| | 1988 | 14 | 199 | 14 | 208 | 17 | 216 |
| | 1990 | 11 | 195 | 11 | 217 | 11 | 221 |
| Disadvantaged urban | | | | | | | |
| | 1984 | 13 | 167 | 8 | 193 | 11 | 194 |
| | 1988 | 8 | 158 | 7 | 189 | *1 | *177 |
| | 1990 | 10 | 159 | 9 | 189 | 9 | 196 |
| Extreme rural | | | | | | | |
| | 1984 | 7 | *154 | 5 | 203 | *6 | 206 |
| | 1988 | 10 | 185 | 6 | 205 | 7 | 215 |
| | 1990 | 10 | 186 | 10 | 200 | 13 | 211 |
| Other | | | | | | | |
| | 1984 | 68 | 180 | 75 | *206 | 67 | 214 |
| | 1988 | 68 | 186 | 73 | *203 | 75 | 214 |
| | 1990 | 70 | 184 | 70 | 195 | 67 | 212 |

*Statistically significant difference from 1990.

NOTE: Percentage of students represents the percentage of all students from each subgroup.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 12-2 Average writing achievement, by parents' highest level of education: 1984–90

| Parents' highest level of education | Year | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Did not finish high school | | | | | | | |
| | 1984 | 7 | 157 | 10 | 196 | 11 | 200 |
| | 1988 | 5 | 158 | 9 | 195 | 8 | *202 |
| | 1990 | 5 | 169 | 8 | 192 | 9 | 190 |
| Graduated high school | | | | | | | |
| | 1984 | 20 | 171 | 35 | *203 | 35 | 207 |
| | 1988 | 18 | 183 | 32 | 198 | 30 | 211 |
| | 1990 | 19 | 183 | 33 | 195 | 30 | 205 |
| Post high school | | | | | | | |
| | 1984 | 5 | 187 | 10 | 210 | *15 | 218 |
| | 1988 | 5 | 179 | 11 | 213 | 18 | 217 |
| | 1990 | 5 | 195 | 12 | 207 | 19 | 215 |
| Graduated college | | | | | | | |
| | 1984 | *33 | 193 | 36 | *215 | 36 | 220 |
| | 1988 | 42 | 195 | 41 | 208 | 41 | 220 |
| | 1990 | 39 | 191 | 38 | 204 | 41 | 221 |

*Statistically significant difference from 1990.

NOTE: Percentage of students represents the percentage of all students from each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest level of education.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 12-3 Standard errors for estimated scale scores in text table for *Indicator 12*

| Year | Grade 4 | | | | Grade 8 | | | | Grade 11 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1984 | 2.2 | 2.6 | 4.3 | 3.5 | 1.4 | 1.6 | 3.6 | 5.7 | 1.7 | 2.2 | 4.4 | 3.9 |
| 1988 | 1.8 | 2.1 | 3.6 | 4.4 | 1.3 | 1.3 | 3.4 | 3.8 | 1.4 | 1.6 | 2.8 | 4.2 |
| 1990 | 1.5 | 1.6 | 4.8 | 3.4 | 1.8 | 1.5 | 2.8 | 3.0 | 1.3 | 1.5 | 2.3 | 3.9 |

| Year | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1984 | 3.0 | 2.6 | 1.8 | 1.9 | 2.7 | 2.0 |
| 1988 | 2.8 | 1.8 | 2.1 | 1.4 | 1.9 | 1.6 |
| 1990 | 1.6 | 2.2 | 1.6 | 1.5 | 2.0 | 1.4 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 12-4 Standard errors for estimated percentages and scale scores for table 12-1

| Type of community | Year | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Advantaged urban | 1984 | 2.4 | 3.8 | 2.6 | 5.7 | 2.6 | 4.7 |
| | 1988 | 2.3 | 6.1 | 3.7 | 3.0 | 4.0 | 3.7 |
| | 1990 | 2.1 | 4.8 | 1.9 | 3.5 | 1.8 | 5.2 |
| Disadvantaged urban | 1984 | 2.0 | 4.1 | 1.3 | 4.3 | 2.1 | 4.4 |
| | 1988 | 2.6 | 4.8 | 2.1 | 2.7 | 0.8 | 1.7 |
| | 1990 | 3.0 | 6.8 | 1.5 | 3.2 | 2.2 | 4.4 |
| Extreme rural | 1984 | 1.2 | 10.9 | 1.1 | 4.8 | 1.2 | 8.3 |
| | 1988 | 2.5 | 4.8 | 1.8 | 5.6 | 2.8 | 3.6 |
| | 1990 | 2.3 | 4.8 | 2.9 | 5.4 | 1.9 | 4.9 |
| Other | 1984 | 2.1 | 2.8 | 2.5 | 1.6 | 2.0 | 1.8 |
| | 1988 | 4.2 | 2.4 | 4.3 | 1.8 | 5.0 | 1.5 |
| | 1990 | 3.4 | 1.9 | 3.2 | 1.7 | 3.3 | 1.4 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 12-5 Standard errors for estimated percentages and scale scores for table 12-2

| Parents' highest level of education | Year | Grade 4 | | Grade 8 | | Grade 11 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Did not finish high school | 1984 | 0.6 | 6.0 | 0.8 | 4.5 | 1.2 | 4.0 |
| | 1988 | 0.6 | 8.4 | 0.7 | 3.9 | 0.8 | 3.7 |
| | 1990 | 0.4 | 4.9 | 0.6 | 3.7 | 0.5 | 3.3 |
| Graduated high school | 1984 | 0.9 | 4.6 | 1.3 | 2.6 | 2.1 | 2.3 |
| | 1988 | 1.1 | 3.2 | 1.2 | 2.2 | 1.2 | 1.4 |
| | 1990 | 0.8 | 2.8 | 1.1 | 1.9 | 1.1 | 2.3 |
| Post high school | 1984 | 0.4 | 5.5 | 0.8 | 5.2 | 0.9 | 4.5 |
| | 1988 | 0.4 | 6.6 | 0.6 | 3.2 | 0.8 | 2.4 |
| | 1990 | 0.4 | 5.9 | 0.7 | 2.7 | 0.6 | 2.3 |
| Graduated college | 1984 | 1.4 | 2.2 | 1.5 | 2.7 | 1.7 | 3.0 |
| | 1988 | 1.4 | 2.2 | 1.5 | 2.3 | 1.8 | 2.1 |
| | 1990 | 1.5 | 2.3 | 1.5 | 2.0 | 1.4 | 1.8 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-1 Average mathematics proficiency, by parents' highest level of education: 1978–90

| Parents' highest level of education | Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school | | | | | | | |
| | 1978 | [1]8 | [1]200 | [1]12 | [1]245 | [1]13 | 280 |
| | 1982 | [1]8 | [1]199 | [1]11 | [1]251 | [1]14 | 279 |
| | 1986 | [2]4 | [1]201 | [1]8 | [1]252 | [1]8 | 279 |
| | 1990 | [2]5 | [2]210 | [1]12 | [1]253 | [1]8 | 285 |
| More than high school | | | | | | | |
| | 1978 | [1]23 | [1]219 | [1]33 | 263 | [1]33 | 294 |
| | 1982 | [1]25 | [1]218 | [1]34 | 263 | [1]33 | 293 |
| | 1986 | [2]16 | [1]218 | 31 | 263 | [2]28 | 293 |
| | 1990 | [2]16 | [2]226 | [2]27 | 263 | [2]26 | 294 |
| More than high school | | | | | | | |
| | 1978 | 9 | 230 | [1]14 | 273 | [1]16 | 305 |
| | 1982 | [1]9 | [1]225 | [1]14 | 275 | [1]18 | [1]304 |
| | 1986 | [2]7 | 229 | 15 | 274 | [2]24 | 305 |
| | 1990 | 7 | 236 | [2]17 | 277 | [2]24 | 308 |
| Graduated from college | | | | | | | |
| | 1978 | [1]24 | [1]231 | [1]26 | 284 | [1]32 | 317 |
| | 1982 | [1,2]30 | [1]229 | [1,2]32 | 282 | [1]32 | [2]312 |
| | 1986 | [2]38 | [1]231 | [2]37 | 280 | 37 | 314 |
| | 1990 | [2]40 | [2]238 | [2]41 | 280 | [2]39 | 316 |

[1] Statistically significant difference from 1990.

[2] Statistically significant difference from 1978.

NOTE: Percentage of students represents the percentage of all students from each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest level of education.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-2 Average mathematics proficiency and highest level of mathematics course taken at age 17; by race/ethnicity and sex: 1978 and 1990

| Highest level of math taken/year | Nation | Race/ethnicity | | | Sex | |
|---|---|---|---|---|---|---|
| | | White | Black | Hispanic | Male | Female |
| Prealgebra or general mathematiacs | | | | | | |
| 1978 percent | *20 | 18 | *31 | *36 | *21 | *20 |
| Proficiency | *267 | *272 | *247 | 256 | 269 | *265 |
| 1990 percent | 15 | 15 | 16 | 21 | 16 | 14 |
| Proficiency | 273 | 277 | 264 | 259 | 274 | 271 |
| Algebra I | | | | | | |
| 1978 percent | 17 | 17 | 19 | 19 | 15 | 18 |
| Proficiency | 286 | 291 | *264 | 273 | 289 | 284 |
| 1990 percent | 15 | 15 | 16 | 24 | 16 | 15 |
| Proficiency | 288 | 292 | 278 | 278 | 291 | 28 |
| Geometry | | | | | | |
| 1978 percent | 16 | 17 | 11 | 12 | 15 | 18 |
| Proficiency | *307 | *310 | 281 | 294 | *310 | *304 |
| 1990 percent | 15 | 15 | 17 | 13 | 16 | 14 |
| Proficiency | 299 | 304 | 285 | 286 | 302 | 296 |
| Alebra II | | | | | | |
| 1978 percent | *37 | *39 | *28 | 23 | 38 | *37 |
| Proficiency | 321 | 325 | *292 | 303 | 325 | 318 |
| 1990 percent | 44 | 46 | 41 | 32 | 42 | 47 |
| Proficiency | 319 | 323 | 302 | 306 | 323 | 316 |
| Precalculus or calculus | | | | | | |
| 1978 percent | 6 | 6 | 4 | 3 | 7 | 4 |
| Proficiency | *334 | *338 | *297 | 306 | *337 | *329 |
| 1990 percent | 8 | 8 | 6 | 7 | 8 | 8 |
| Proficiency | 344 | 347 | 329 | 323 | 347 | 341 |

*Statistically significant difference from 1990.

NOTE: Percentage of students represents the proportion of all students from each subgroup.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-3 Average mathematics proficiency, and percentage of students at Advanced, Proficient, and Basic achievement levels, by grade, sex, and race/ethnicity: 1990 and 1992

| Grade, sex, and race/ ethnicity | Year | Percent of students | Average proficiency | Percent of students at or above level | | |
|---|---|---|---|---|---|---|
| | | | | Advanced | Proficent | Basic |
| Grade | | | | | | |
| 4 | 1990 | — | 213 | 1 | 13 | 54 |
| | 1992 | — | *218 | 2 | *18 | *61 |
| 8 | 1990 | — | 263 | 2 | 20 | 58 |
| | 1992 | — | *268 | 4 | *25 | *63 |
| 12 | 1990 | — | 294 | 2 | 13 | 59 |
| | 1992 | — | *299 | 2 | 16 | *64 |
| Sex | | | | | | |
| Grade 4 | | | | | | |
| Male | 1990 | 52 | 214 | 2 | 14 | 55 |
| | 1992 | 50 | *220 | 3 | *20 | *62 |
| Female | 1990 | 48 | 212 | 1 | 13 | 53 |
| | 1992 | 50 | *217 | 2 | 17 | *59 |
| Grade 8 | | | | | | |
| Male | 1990 | 51 | 263 | 3 | 21 | 58 |
| | 1992 | 51 | *267 | 4 | 25 | 62 |
| Female | 1990 | 49 | 262 | 2 | 18 | 59 |
| | 1992 | 49 | *268 | *4 | *24 | 63 |
| Grade 12 | | | | | | |
| Male | 1990 | 48 | 297 | 3 | 16 | 61 |
| | 1992 | 49 | *301 | 3 | 18 | 65 |
| Female | 1990 | 52 | 292 | 1 | 10 | 57 |
| | 1992 | 51 | *297 | 1 | 14 | 63 |
| Race/ethnicitiy | | | | | | |
| Grade 4 | | | | | | |
| White | 1990 | 70 | 220 | 2 | 17 | 64 |
| | 1992 | 70 | *227 | 3 | *23 | *72 |
| Black | 1990 | 15 | 189 | 0 | 2 | 22 |
| | 1992 | 16 | 192 | 0 | 3 | 24 |
| Hispanic | 1990 | 10 | 198 | 0 | 5 | 34 |
| | 1992 | 10 | 201 | 0 | 6 | 37 |
| Asian/ | 1990 | 2 | 228 | 4 | 24 | 69 |
| Pacific Islander | 1992 | 2 | 231 | 5 | 30 | 76 |
| American | 1990 | 2 | 208 | 0 | 5 | 48 |
| Indian | 1992 | 2 | 209 | 2 | 10 | 46 |
| Grade 8 | | | | | | |
| White | 1990 | 71 | 270 | 3 | 24 | 68 |
| | 1992 | 70 | *277 | 4 | *32 | *74 |
| Black | 1990 | 15 | 238 | 0 | 6 | 28 |
| | 1992 | 16 | 237 | 0 | 3 | 27 |
| Hispanic | 1990 | 10 | 244 | 0 | 6 | 38 |
| | 1992 | 10 | 246 | 1 | 8 | 39 |
| Asian/ | 1990 | 2 | 279 | 6 | 38 | 76 |
| Pacific Islander | 1992 | 2 | 288 | 14 | 44 | 80 |
| American | 1990 | 2 | 246 | 0 | 9 | 39 |
| Indian | 1992 | 1 | 254 | 0 | 9 | 47 |
| Grade 12 | | | | | | |
| White | 1990 | 74 | 300 | 2 | 16 | 67 |
| | 1992 | 71 | *305 | 2 | 19 | 72 |
| Black | 1990 | 14 | 268 | 0 | 2 | 28 |
| | 1992 | 15 | *275 | 0 | 3 | 34 |
| Hispanic | 1990 | 8 | 276 | 0 | 4 | 37 |
| | 1992 | 10 | *283 | 1 | 6 | 45 |
| Asian/ | 1990 | 3 | 311 | 5 | 25 | 76 |
| Pacific Islander | 1992 | 4 | 315 | 6 | 31 | 81 |
| American | 1990 | 1 | 288 | 0 | 4 | 62 |
| Indian | 1992 | 1 | 281 | 0 | 4 | 46 |

—Not applicable.

*The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level.

NOTE: See supplemental note to *Indicator 13* for a discussion of NAEP achievement levels.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *A Preliminary Report of National Estimates from the National Assessment of Educational Progress 1992 Mathematics Assessment*, 1993.

## Table 13-4 Average mathematics proficiency and percentage of students at or above the Advanced, Proficient, and Basic achievement levels, by grade and urbancity: 1990 and 1992

| Grade/urbanicity | Year | Percent of students | Average proficiency | Percent of students at or above level | | |
|---|---|---|---|---|---|---|
| | | | | Advanced | Proficent | Basic |
| Grade 4 | | | | | | |
| Advantaged urban | 1990 | 11 | 231 | 4 | 29 | 77 |
| | 1992 | 12 | 237 | 7 | 36 | 81 |
| Disadvantaged urban | 1990 | 10 | 195 | 0 | 4 | 31 |
| | 1992 | 9 | 193 | 0 | 3 | 27 |
| Extreme rural | 1990 | 10 | 214 | 1 | 12 | 56 |
| | 1992 | 12 | 216 | 1 | 15 | 60 |
| Other | 1990 | 70 | 213 | 1 | 13 | 53 |
| | 1992 | 66 | [1]219 | 2 | [1]18 | [1]62 |
| Grade 8 | | | | | | |
| Advantaged urban | 1990 | 11 | 280 | 5 | 34 | 78 |
| | 1992 | 10 | 288 | 10 | [1]48 | 82 |
| Disadvantaged urban | 1990 | 10 | 249 | 1 | 11 | 42 |
| | 1992 | 9 | [2]238 | 1 | 6 | [2]28 |
| Extreme rural | 1990 | 9 | 257 | 1 | 14 | 51 |
| | 1992 | 9 | 267 | 2 | 21 | 65 |
| Other | 1990 | 70 | 262 | 2 | 19 | 58 |
| | 1992 | 72 | [1]268 | 3 | [1]24 | 64 |
| Grade 12 | | | | | | |
| Advantaged urban | 1990 | 9 | 306 | 4 | 23 | 72 |
| | 1992 | 12 | 316 | 6 | 32 | 82 |
| Disadvantaged urban | 1990 | 10 | 276 | 0 | 5 | 36 |
| | 1992 | 10 | 279 | 0 | 6 | 40 |
| Extreme rural | 1990 | 10 | 293 | 1 | 11 | 58 |
| | 1992 | 12 | 293 | 0 | 10 | 56 |
| Other | 1990 | 71 | 295 | 2 | 13 | 61 |
| | 1992 | 66 | [1]300 | 2 | 16 | 66 |

[1] The value for 1992 was significantly higher than the value for 1990.

[2] The value for 1992 was significantly lower than the value for 1990.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *A Preliminary Report of National Estimates from the National Assessment of Educational Progress 1992 Mathematics Assessment*, 1993.

## Table 13-5 Average eighth grade NAEP mathematics performance of public school students, by region and state/territory: 1990

| Region and state/territory | Average proficiency | Numbers and operations | Measurement | Geometry | Data analysis, statistics, and probability | Algebra and functions |
|---|---|---|---|---|---|---|
| **Nation** | **261** | **266** | **258** | **259** | **262** | **260** |
| Northeast | 269 | 271 | 266 | 268 | 273 | 267 |
| Southeast | 253 | 259 | 246 | 249 | 250 | 254 |
| Central | 265 | 270 | 263 | 262 | 265 | 263 |
| West | 261 | 264 | 258 | 260 | 262 | 259 |
| Alabama | 252 | 259 | 247 | 248 | 251 | 251 |
| Arizona | 259 | 264 | 257 | 256 | 258 | 258 |
| Arkansas | 256 | 262 | 253 | 253 | 254 | 253 |
| California | 256 | 259 | 252 | 255 | 254 | 256 |
| Colorado | 267 | 269 | 265 | 266 | 269 | 266 |
| Connecticut | 270 | 273 | 269 | 266 | 272 | 268 |
| Delaware | 261 | 265 | 258 | 256 | 261 | 260 |
| District of Columbia | 231 | 238 | 221 | 229 | 222 | 235 |
| Florida | 255 | 260 | 251 | 251 | 255 | 255 |
| Georgia | 258 | 263 | 252 | 256 | 260 | 257 |
| Hawaii | 251 | 256 | 249 | 252 | 242 | 249 |
| Idaho | 272 | 274 | 270 | 269 | 274 | 269 |
| Illinois | 260 | 265 | 256 | 256 | 262 | 260 |
| Indiana | 267 | 271 | 263 | 264 | 269 | 265 |
| Iowa | 278 | 283 | 277 | 275 | 281 | 274 |
| Kentucky | 256 | 261 | 253 | 253 | 257 | 256 |
| Louisana | 246 | 253 | 241 | 242 | 243 | 245 |
| Maryland | 260 | 264 | 256 | 256 | 260 | 263 |
| Michigan | 264 | 268 | 260 | 262 | 264 | 264 |
| Minnesota | 276 | 279 | 272 | 273 | 279 | 274 |
| Montana | 280 | 282 | 279 | 280 | 282 | 278 |
| Nebraska | 276 | 279 | 274 | 273 | 279 | 273 |
| New Hampshire | 273 | 275 | 272 | 272 | 276 | 271 |
| New Jersey | 269 | 274 | 267 | 266 | 270 | 268 |
| New Mexico | 256 | 258 | 253 | 257 | 253 | 256 |
| New York | 261 | 263 | 255 | 259 | 263 | 260 |
| North Carolina | 250 | 255 | 241 | 249 | 247 | 251 |
| North Dakota | 281 | 286 | 280 | 278 | 286 | 275 |
| Ohio | 264 | 268 | 259 | 260 | 266 | 262 |
| Oklahoma | 263 | 268 | 258 | 259 | 264 | 262 |
| Oregon | 271 | 273 | 269 | 270 | 274 | 270 |
| Pennsylvania | 266 | 270 | 265 | 263 | 268 | 265 |
| Rhode Island | 260 | 264 | 256 | 256 | 258 | 261 |
| Texas | 258 | 262 | 253 | 258 | 256 | 256 |
| Virgina | 264 | 268 | 259 | 261 | 264 | 265 |
| West Virginia | 256 | 260 | 252 | 254 | 256 | 254 |
| Wisconsin | 274 | 278 | 273 | 272 | 277 | 271 |
| Wyoming | 272 | 275 | 270 | 270 | 274 | 270 |
| Guam | 231 | 239 | 227 | 236 | 213 | 230 |
| Virgin Islands | 218 | 227 | 214 | 222 | 196 | 218 |

NOTE: As part of the 1990 mathematics assessment of 4th-, 8th-, and 12th-graders, a new dimension was added to NAEP whereby states (and the District of Columbia) and territories could, on a voluntary basis, participate in the mathematics assessment of 8th-graders. This assessment was designed to provide state-level data comparable to results for the nation and other participating states and territories. The Trial State Assessment Program provides information about mathematics achievement as well as programs and practices in mathematics instruction. The materials were given to representative samples of students across the country including 26,000 students in 1,300 private and public schools nationally and, in addition, to approximately 2,500 students in about 100 public schools in each of the 40 participating states and territories.

SOURCE: National Assessment of Educational Progress, *The State of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*, 1991.

## Table 13-6 Standard errors for estimated scale scores in text table for *Indicator 13*

| Year | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1973 | 0.8 | 1.0 | 1.8 | 2.4 | 0.8 | 0.9 | 1.9 | 2.2 | 1.1 | 1.1 | 1.3 | 2.2 |
| 1978 | 0.8 | 0.9 | 1.1 | 2.2 | 0.8 | 0.8 | 1.9 | 2.0 | 1.0 | 0.9 | 1.3 | 2.3 |
| 1982 | 1.1 | 1.1 | 1.6 | 1.3 | 1.1 | 1.0 | 1.6 | 1.7 | 0.9 | 0.9 | 1.2 | 1.8 |
| 1986 | 1.0 | 1.1 | 1.6 | 2.1 | 1.0 | 1.3 | 2.3 | 2.9 | 0.9 | 1.0 | 2.1 | 2.9 |
| 1990 | 0.8 | 0.8 | 2.2 | 2.1 | 0.8 | 1.1 | 2.3 | 1.8 | 0.9 | 1.0 | 2.8 | 2.9 |

| Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1973 | 0.7 | 1.1 | 1.3 | 1.1 | 1.2 | 1.1 |
| 1978 | 0.7 | 1.0 | 1.3 | 1.1 | 1.0 | 1.0 |
| 1982 | 1.2 | 1.2 | 1.4 | 1.1 | 1.0 | 1.0 |
| 1986 | 1.1 | 1.2 | 1.1 | 1.5 | 1.2 | 1.0 |
| 1990 | 0.9 | 1.1 | 1.2 | 0.9 | 1.1 | 1.1 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-7 Standard errors for estimated percentages and scale scores for table 13-1

| Parents' highest level of education | Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school | 1978 | 0.4 | 1.5 | 0.6 | 1.2 | 0.6 | 1.2 |
| | 1982 | 0.7 | 1.7 | 0.6 | 1.4 | 0.9 | 1.0 |
| | 1986 | 0.4 | 2.5 | 1.0 | 2.3 | 0.4 | 2.3 |
| | 1990 | 0.4 | 2.3 | 0.5 | 1.8 | 0.6 | 2.2 |
| Graduated from high school | 1978 | 0.8 | 1.1 | 0.8 | 1.0 | 0.7 | 0.8 |
| | 1982 | 0.8 | 1.1 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 1986 | 0.7 | 1.6 | 1.2 | 1.2 | 1.1 | 1.0 |
| | 1990 | 0.7 | 1.2 | 0.8 | 1.3 | 1.1 | 0.9 |
| More than high school | 1978 | 0.4 | 1.7 | 0.4 | 1.2 | 0.7 | 0.9 |
| | 1982 | 0.4 | 2.1 | 0.4 | 0.9 | 0.5 | 0.9 |
| | 1986 | 0.6 | 2.1 | 0.6 | 0.8 | 1.0 | 1.2 |
| | 1990 | 0.4 | 2.0 | 0.6 | 1.0 | 0.9 | 1.0 |
| Graduated from college | 1978 | 1.1 | 1.1 | 1.2 | 1.2 | 1.1 | 1.0 |
| | 1982 | 1.5 | 1.5 | 1.3 | 1.5 | 1.3 | 1.0 |
| | 1986 | 1.1 | 1.1 | 2.2 | 1.4 | 1.2 | 1.4 |
| | 1990 | 1.1 | 1.3 | 1.2 | 1.0 | 1.3 | 1.3 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-8 Standard errors for estimated percentages and proficiency scores for table 13-2

| Highest level of math taken/year | Nation | Race/ethnicity | | | Sex | |
|---|---|---|---|---|---|---|
| | | White | Black | Hispanic | Male | Female |
| Prealgebra or general mathematics | | | | | | |
| 1978 percent | 1.0 | 1.1 | 1.3 | 3.1 | 1.0 | 1.1 |
| Proficiency | 0.8 | 0.6 | 1.6 | 2.3 | 1.0 | 0.9 |
| 1990 percent | 0.9 | 0.9 | 2.0 | 2.9 | 1.2 | 0.9 |
| Proficiency | 1.1 | 1.1 | 2.2 | 4.0 | 1.7 | 1.8 |
| Algebra I | | | | | | |
| 1978 percent | 0.6 | 0.6 | 1.2 | 2.1 | 0.6 | 0.7 |
| Proficiency | 0.7 | 0.6 | 1.5 | 2.8 | 0.9 | 1.0 |
| 1990 percent | 0.6 | 0.6 | 1.6 | 2.9 | 1.0 | 0.8 |
| Proficiency | 1.2 | 1.6 | 4.0 | 4.1 | 1.6 | 1.8 |
| Geometry | | | | | | |
| 1978 percent | 0.6 | 0.7 | 0.8 | 1.2 | 0.5 | 0.8 |
| Proficiency | 0.7 | 0.6 | 1.9 | 4.4 | 1.0 | 0.8 |
| 1990 percent | 0.8 | 0.8 | 2.1 | 2.0 | 0.9 | 0.9 |
| Proficiency | 1.5 | 1.3 | 3.5 | 3.5 | 1.6 | 1.8 |
| Algebra II | | | | | | |
| 1978 percent | 1.2 | 1.3 | 2.1 | 2.5 | 1.2 | 1.3 |
| Proficiency | 0.7 | 0.6 | 1.4 | 2.9 | 0.8 | 0.9 |
| 1990 percent | 1.2 | 1.4 | 3.2 | 3.5 | 1.4 | 1.8 |
| Proficiency | 1.0 | 0.9 | 3.2 | 3.3 | 1.2 | 1.1 |
| Precalculus or calculus | | | | | | |
| 1978 percent | 0.4 | 0.4 | 0.6 | 0.9 | 2.0 | 0.4 |
| Proficiency | 1.4 | 1.1 | 6.5 | 6.1 | 0.5 | 1.8 |
| 1990 percent | 0.8 | 0.9 | 1.8 | 1.7 | 1.1 | 1.0 |
| Proficiency | 2.6 | 2.8 | 7.6 | 9.6 | 2.4 | 4.0 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 13-9 Standard errors for estimated percentages in table 13-3

| Grade, sex, and race/ethnicity | Year | Percent of students | Average proficiency | Percent of students at or above level | | |
|---|---|---|---|---|---|---|
| | | | | Advanced | Proficent | Basic |
| Grade | | | | | | |
| 4 | 1990 | — | 0.9 | 0.4 | 1.1 | 1.4 |
| | 1992 | — | 0.7 | 0.3 | 1.0 | 1.0 |
| 8 | 1990 | — | 1.3 | 0.4 | 1.1 | 1.4 |
| | 1992 | — | 0.9 | 0.4 | 1.0 | 1.1 |
| 12 | 1990 | — | 1.1 | 0.3 | 1.0 | 1.5 |
| | 1992 | — | 0.9 | 0.3 | 0.9 | 1.2 |
| Sex | | | | | | |
| Grade 4 | | | | | | |
| Male | 1990 | 1.0 | 1.2 | 0.6 | 1.3 | 1.7 |
| | 1992 | 0.6 | 0.8 | 0.5 | 1.1 | 1.1 |
| Female | 1990 | 1.0 | 1.1 | 0.4 | 1.4 | 2.0 |
| | 1992 | 0.6 | 1.0 | 0.3 | 1.3 | 1.5 |
| Grade 8 | | | | | | |
| Male | 1990 | 1.0 | 1.6 | 0.5 | 1.5 | 1.8 |
| | 1992 | 0.6 | 1.1 | 0.6 | 1.3 | 1.3 |
| Female | 1990 | 1.0 | 1.3 | 0.4 | 1.2 | 1.6 |
| | 1992 | 0.6 | 1.0 | 0.5 | 1.3 | 1.2 |
| Grade 12 | | | | | | |
| Male | 1990 | 1.0 | 1.4 | 0.6 | 1.5 | 1.7 |
| | 1992 | 0.8 | 1.1 | 0.5 | 1.1 | 1.3 |
| Female | 1990 | 1.0 | 1.3 | 0.3 | 0.9 | 1.9 |
| | 1992 | 0.8 | 1.0 | 0.3 | 1.1 | 1.4 |
| Race/ethnicity | | | | | | |
| Grade 4 | | | | | | |
| White | 1990 | 0.2 | 1.1 | 0.5 | 1.5 | 1.7 |
| | 1992 | 0.2 | 0.9 | 0.4 | 1.4 | 1.2 |
| Black | 1990 | 0.1 | 1.8 | 0.1 | 0.5 | 2.5 |
| | 1992 | 0.1 | 1.3 | 0.0 | 0.7 | 1.8 |
| Hispanic | 1990 | 0.2 | 2.0 | 0.2 | 1.2 | 3.0 |
| | 1992 | 0.2 | 1.4 | 0.2 | 1.1 | 2.1 |
| Asian/Pacific Islander | 1990 | 0.2 | 3.5 | 3.8 | 5.0 | 6.5 |
| | 1992 | 0.2 | 2.4 | 2.1 | 4.7 | 3.4 |
| American Indian | 1990 | 0.2 | 3.9 | 0.5 | 2.7 | 8.4 |
| | 1992 | 0.2 | 3.2 | 1.3 | 3.6 | 4.5 |
| Grade 8 | | | | | | |
| White | 1990 | 0.3 | 1.4 | 0.5 | 1.5 | 1.5 |
| | 1992 | 0.2 | 1.0 | 0.5 | 1.3 | 1.3 |
| Black | 1990 | 0.2 | 2.7 | 0.3 | 1.2 | 3.1 |
| | 1992 | 0.1 | 1.4 | 0.4 | 0.8 | 2.1 |
| Hispanic | 1990 | 0.2 | 2.8 | 0.0 | 1.5 | 3.1 |
| | 1992 | 0.2 | 1.2 | 0.5 | 1.0 | 2.0 |
| Asian/Pacific Islander | 1990 | 0.5 | 4.8 | 2.5 | 5.5 | 5.3 |
| | 1992 | 0.2 | 5.5 | 4.5 | 7.3 | 4.1 |
| American Indian | 1990 | 0.6 | 9.4 | 0.0 | 8.7 | 11.0 |
| | 1992 | 0.2 | 2.8 | 0.0 | 3.5 | 4.7 |
| Grade 12 | | | | | | |
| White | 1990 | 0.6 | 1.2 | 0.4 | 1.3 | 1.7 |
| | 1992 | 0.6 | 0.9 | 0.4 | 1.1 | 1.3 |
| Black | 1990 | 0.5 | 1.9 | 0.0 | 1.0 | 2.7 |
| | 1992 | 0.4 | 1.7 | 0.2 | 0.6 | 2.5 |
| Hispanic | 1990 | 0.2 | 2.8 | 0.4 | 1.2 | 4.2 |
| | 1992 | 0.5 | 1.8 | 0.4 | 0.8 | 2.1 |
| Asian/Pacific Islander | 1990 | 0.3 | 5.2 | 2.6 | 6.2 | 5.0 |
| | 1992 | 0.2 | 3.5 | 1.4 | 5.7 | 4.3 |
| American Indian | 1990 | 0.3 | 10.2 | 0.0 | 6.8 | 15.9 |
| | 1992 | 0.1 | 9.0 | 0.0 | 2.7 | 16.3 |

—Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *A Preliminary Report of National Estimates from the National Assessment of Educational Progress 1992 Mathematics Assessment*, 1993.

## Table 13-10 Standard errors for estimated percentages in table 13-4

| Grade/urbanicity | Year | Percent of students | Average proficiency | Percent of students at or above level | | |
|---|---|---|---|---|---|---|
| | | | | Advanced | Proficent | Basic |
| Grade 4 | | | | | | |
| Advantaged urban | 1990 | 2.5 | 3.0 | 1.5 | 4.8 | 3.4 |
| | 1992 | 1.8 | 2.1 | 1.8 | 3.1 | 2.2 |
| Disadvantaged urban | 1990 | 1.5 | 3.0 | 0.0 | 1.2 | 4.3 |
| | 1992 | 1.4 | 2.8 | 0.0 | 1.0 | 3.2 |
| Extreme rural | 1990 | 1.9 | 4.9 | 1.0 | 3.0 | 7.3 |
| | 1992 | 2.2 | 3.6 | 0.5 | 2.4 | 5.1 |
| Other | 1990 | 3.6 | 1.1 | 0.5 | 1.2 | 1.6 |
| | 1992 | 3.0 | 0.9 | 0.3 | 1.1 | 1.2 |
| Grade 8 | | | | | | |
| Advantaged urban | 1990 | 2.9 | 3.2 | 1.8 | 3.2 | 3.6 |
| | 1992 | 1.8 | 3.6 | 2.1 | 4.2 | 3.0 |
| Disadvantaged urban | 1990 | 2.5 | 3.8 | 0.7 | 3.5 | 4.3 |
| | 1992 | 1.3 | 2.6 | 0.3 | 1.5 | 3.1 |
| Extreme rural | 1990 | 2.8 | 4.4 | 0.7 | 3.5 | 5.7 |
| | 1992 | 2.6 | 4.6 | 1.0 | 3.8 | 6.2 |
| Other | 1990 | 3.9 | 1.7 | 0.4 | 1.2 | 2.0 |
| | 1992 | 3.1 | 1.1 | 0.5 | 1.2 | 1.5 |
| Grade 12 | | | | | | |
| Advantaged urban | 1990 | 2.8 | 6.2 | 1.7 | 4.9 | 7.4 |
| | 1992 | 2.1 | 2.6 | 1.4 | 2.9 | 2.8 |
| Disadvantaged urban | 1990 | 2.7 | 6.0 | 0.0 | 2.6 | 7.7 |
| | 1992 | 1.4 | 2.4 | 0.4 | 1.4 | 3.0 |
| Extreme rural | 1990 | 3.2 | 3.3 | 0.6 | 1.6 | 5.6 |
| | 1992 | 1.6 | 1.9 | 0.3 | 1.6 | 2.6 |
| Other | 1990 | 4.4 | 1.3 | 0.3 | 1.1 | 1.6 |
| | 1992 | 3.0 | 0.9 | 0.3 | 1.0 | 1.2 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *A Preliminary Report of National Estimates from the National Assessment of Educational Progress 1992 Mathematics Assessment*, 1992.

## Table 13-11 Standard errors for estimated scale scores in table 13-5

| Region and state/territory | Average proficiency | Numbers and operations | Measurement | Geometry | Data analysis, statistics, and probability | Algebra and functions |
|---|---|---|---|---|---|---|
| **Nation** | **1.4** | **1.4** | **1.7** | **1.4** | **1.8** | **1.3** |
| Northeast | 3.4 | 3.1 | 4.7 | 3.6 | 3.6 | 3.4 |
| Southeast | 2.7 | 2.9 | 3.8 | 2.6 | 3.3 | 2.7 |
| Central | 2.6 | 2.7 | 3.4 | 3.1 | 3.2 | 2.1 |
| West | 2.6 | 2.6 | 3.0 | 2.6 | 3.6 | 2.4 |
| Alabama | 1.2 | 1.2 | 1.4 | 1.2 | 1.6 | 1.4 |
| Arizona | 1.2 | 1.2 | 1.4 | 1.1 | 1.4 | 1.3 |
| Arkansas | 0.9 | 0.8 | 1.2 | 1.0 | 1.2 | 1.1 |
| California | 1.3 | 1.2 | 1.5 | 1.3 | 1.7 | 1.3 |
| Colorado | 1.0 | 1.0 | 1.3 | 1.1 | 1.1 | 1.1 |
| Connecticut | 1.1 | 1.0 | 1.5 | 1.1 | 1.4 | 1.2 |
| Delaware | 0.7 | 0.8 | 1.0 | 0.7 | 1.0 | 1.0 |
| District of Columbia | 0.7 | 0.8 | 1.0 | 0.9 | 1.1 | 1.1 |
| Florida | 1.2 | 1.2 | 1.4 | 1.3 | 1.5 | 1.3 |
| Georgia | 1.3 | 1.2 | 1.5 | 1.3 | 1.5 | 1.5 |
| Hawaii | 0.6 | 0.9 | 0.8 | 0.7 | 1.0 | 0.8 |
| Idaho | 0.7 | 0.8 | 1.0 | 0.8 | 0.9 | 0.9 |
| Illinois | 1.7 | 1.7 | 2.0 | 1.7 | 2.0 | 1.7 |
| Indiana | 1.1 | 1.2 | 1.3 | 1.1 | 1.4 | 1.2 |
| Iowa | 1.0 | 1.0 | 1.5 | 1.3 | 1.2 | 1.1 |
| Kentucky | 1.1 | 1.2 | 1.5 | 1.2 | 1.3 | 1.1 |
| Louisana | 1.2 | 1.1 | 1.5 | 1.3 | 1.6 | 1.3 |
| Maryland | 1.4 | 1.4 | 1.7 | 1.4 | 1.5 | 1.6 |
| Michigan | 1.1 | 1.2 | 1.3 | 1.0 | 1.4 | 1.2 |
| Minnesota | 0.9 | 1.0 | 1.1 | 1.1 | 0.9 | 0.9 |
| Montana | 0.8 | 1.0 | 1.4 | 0.8 | 0.8 | 0.9 |
| Nebraska | 0.9 | 1.0 | 1.4 | 1.1 | 1.0 | 1.0 |
| New Hampshire | 0.8 | 1.0 | 1.3 | 1.0 | 0.9 | 1.0 |
| New Jersey | 1.0 | 1.1 | 1.4 | 1.1 | 1.3 | 1.1 |
| New Mexico | 0.8 | 0.8 | 0.8 | 0.9 | 1.1 | 1.0 |
| New York | 1.3 | 1.3 | 1.6 | 1.4 | 1.7 | 1.2 |
| North Carolina | 1.0 | 1.0 | 1.1 | 1.0 | 1.3 | 1.0 |
| North Dakota | 1.2 | 1.1 | 1.9 | 1.3 | 1.5 | 1.1 |
| Ohio | 1.0 | 1.0 | 1.2 | 1.1 | 1.2 | 1.0 |
| Oklahoma | 1.2 | 1.2 | 1.5 | 1.4 | 1.6 | 1.2 |
| Oregon | 1.0 | 1.0 | 1.3 | 0.9 | 1.3 | 1.1 |
| Pennsylvania | 1.6 | 1.5 | 2.0 | 1.7 | 1.9 | 1.6 |
| Rhode Island | 0.5 | 0.6 | 0.8 | 0.6 | 0.6 | 0.8 |
| Texas | 1.3 | 1.2 | 1.4 | 1.4 | 1.7 | 1.5 |
| Virgina | 1.5 | 1.4 | 1.8 | 1.5 | 1.8 | 1.6 |
| West Virginia | 0.9 | 0.9 | 1.3 | 0.9 | 1.2 | 1.0 |
| Wisconsin | 1.3 | 1.2 | 1.7 | 1.3 | 1.4 | 1.3 |
| Wyoming | 0.6 | 0.7 | 0.9 | 0.6 | 0.7 | 0.7 |
| Guam | 0.6 | 0.7 | 0.9 | 0.8 | 0.8 | 0.7 |
| Virgin Islands | 0.5 | 0.6 | 1.3 | 0.8 | 1.2 | 0.8 |

SOURCE: National Assessment of Educational Progress, *The State of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*, 1991.

## Note on achievement levels

Tables 13-3 and 13-4 contain data on the percentage of students scoring at the new NAEP achievement levels. Discussions within and outside NCES have raised questions about the need for validity evidence for the achievement levels, as well as for greater understanding of the underlying assumptions of the process by which they were developed. Currently, independent studies are being conducted concerning the appropriate inferences that can be drawn from NAEP results reported by the achievement levels (i.e., are students who are classified at a particular achievement level likely to be able to perform the tasks in the level description). The development of these levels are briefly described below.

In 1992, the National Assessment Governing Board (NAGB) passed a resolution that achievement levels would be the primary means of reporting National Assessment of Educational Progress (NAEP) data. Setting these levels is a method for setting standards on the NAEP assessment that identifies what students should know and should be able to do at various points along the proficiency scale. The method depends on securing and summarizing a set of judgmental ratings of expectations for students' educational performance on specific items. These judgements involve what students should be able to do at 3 specific grade levels (i.e., grades 4, 8, and 12). Student achievement levels are now measured on the basis of grade level and not age.

In developing the threshold values for the levels, a broadly constituted panel of 68 judges—including 50 percent teachers, 20 percent non-teacher educators, and 30 percent non-educators (including individuals from business, labor, government services, parents, and the general public)—rated a grade-specific item pool using the Board's policy definitions for Basic, Proficient, and Advanced. The policy definitions are as follows:

- BASIC–This level below proficient, denotes partial mastery of the knowledge and skills that are fundamental for proficient work at each grade.
- PROFICIENT–This central level represents solid academic performance for each grade tested. Students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling.
- ADVANCED–This higher level signifies superior performance beyond proficient grade-level mastery at each grade.

The policy definitions were operationalized by the judges in terms of specific mathematical skills, knowledge, and behaviors that were in accordance with the current mathematics assessment framework, and were generally agreed to be appropriate expectations for students in each grade at each level. The judges operationalized definitions were incorporated into lists of descriptors that represented what boarderline students should be able to do at each of the policy levels. The purpose of having panelists develop their own operational definitions of the achievement levels was to insure that all panelists would have a common understanding of boarderline performances and a common set of content-based referents to use during the item-rating process.

The judges (24 at grade 4, 22 at grade 8, and 22 at grade 12) each rated half of the items in the NAEP pool in terms of the expected probability that a student at a borderline achievement level would answer the item correctly, based on the judges' operationlization of the policy definitions and the factors that influence item difficulty. To assist the judges in generating consistently-scaled ratings, the rating process was repeated twice, with feedback. Information on consistency among different judges and on the difficulty of each item was fed back into the first repetition (round 2), while information on consistency within each judge's set of ratings permitted the judges to discuss their ratings among themselves to resolve problematic ratings. The mean final rating of the judges aggregated across items yielded the threshold values in the percent correct metric. These cut scores were then mapped onto the NAEP scale (which is defined and scored using item response theory, rather than percent correct) to obtain the scale scores for the achievement levels. The Board accepted the panel's achievement levels and, for reporting purposes, set final cutpoints one standard error (a measure of consistency among the judges' rating) below the mean levels.

After the ratings were completed, the judges for each grade level reviewed the operationalized descriptions developed by the judges of the other grade levels as well as their own descriptions and came up with achievement level descriptions that were generally acceptable to all three grade-group judges. However, the descriptions varied in format, sharpness of the language, and degree of specificity of the statements. Therefore, another panel at a subsequent validation meeting improved the wording and modified the language of the achievement level descriptions to reflect more closely the terminology of the National Council of Teachers of Mathematics (NCTM) Standards for mathematics.

Finally, for each achievement level, exemplar items needed to be selected that reflected the kinds of tasks that examines at or above the level were likely to be able to perform successfully. While the judges discussed items and made recommendations, the task of final selection was put to a subsequent validation panel.

Several criteria were used to select items as candidates for exemplars. From the pool of items scheduled for public release, items were deleted that students were more likely to get wrong than right (p-value .50). Remaining items that did not match any of the descriptions were also deleted.

A few items were deleted that did not have increasing p-values from Basic, to Proficient, to Advanced. The validation panels then reviewed the matched and classified item sets and selected exemplars based on the qualilty of the items, the way the items collectively represented the subscales, and the appropriateness of the items to the grade (for items administered to more than one grade).

In principle, the descriptions of the levels, though based on the 1992 item pool, apply to the current assessment framework and will not change from year to year (that is, until the framework changes). However, the sample items reflective of the levels will need to be updated each time the assessment is administered.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *A Preliminary Report of National Estimates from the National Assessment of Educational Progress 1992 Mathematics Assessment*.

## Table 14-1 Average science proficiency, by parents' highest level of education: 1977–90

| Parents' highest level of education | Year | Age 9 |  | Age 13 |  | Age 17 |  |
|---|---|---|---|---|---|---|---|
|  |  | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school |  |  |  |  |  |  |  |
|  | 1977 | [1]9 | [1]199 | [1]13 | [1]224 | [1]15 | 265 |
|  | 1982 | 7 | 198 | [2]10 | 225 | [1]13 | 259 |
|  | 1986 | 4 | 204 | [2]8 | 229 | [2]8 | 258 |
|  | 1990 | [2]5 | [2]210 | [2]8 | [2]233 | [2]8 | 261 |
| Graduated from high school |  |  |  |  |  |  |  |
|  | 1977 | [1]27 | 223 | [1]33 | 245 | [1]33 | [1]284 |
|  | 1982 | [2]15 | 218 | [2]26 | 243 | [2]29 | [2]275 |
|  | 1986 | [2]16 | [1]220 | 31 | 245 | [2]28 | [2]277 |
|  | 1990 | [2]16 | 226 | [2]27 | 247 | [2]26 | [2]276 |
| More than high school |  |  |  |  |  |  |  |
|  | 1977 | 7 | 237 | 15 | 260 | [1]17 | 296 |
|  | 1982 | 8 | 229 | 17 | 259 | [2]22 | [1,2]290 |
|  | 1986 | 7 | 236 | 15 | 258 | [2]24 | 295 |
|  | 1990 | 7 | 238 | 17 | 263 | [2]24 | 297 |
| Graduated from college |  |  |  |  |  |  |  |
|  | 1977 | [1]23 | 232 | [1]27 | 266 | [1]30 | 309 |
|  | 1982 | [2]42 | 231 | [2]37 | 264 | [1]32 | [2]300 |
|  | 1986 | [2]38 | 235 | [2]37 | 264 | [2]37 | 304 |
|  | 1990 | [2]40 | 236 | [2]41 | 268 | [2]39 | 306 |

[1] Statistically significant difference from 1990.
[2] Statistically significant difference from 1977.

NOTE: Percent of students represents the percentage of all students from each subgroup. Not shown are about one-third of students at age 9 and smaller percentages of ages 13 and 17 who did not know their parents' highest level of education.

SOURCE: National Assessment of Education Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-2 Percentage of students at or above five science proficiency levels, by race/ethnicity: 1977 and 1990

| Proficiency level | Age | 1977 |  |  |  | 1990 |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| Level 150 | 9 | 94 | 98 | *72 | *85 | 97 | 99 | 88 | 94 |
|  | 13 | 99 | 100 | 93 | 94 | 100 | 100 | 99 | 99 |
|  | 17 | 100 | 100 | 99 | 100 | 100 | 100 | 99 | 100 |
| Level 200 | 9 | *68 | *77 | *27 | *42 | 76 | 84 | 46 | 56 |
|  | 13 | *86 | 92 | *57 | *62 | 92 | 97 | 78 | 80 |
|  | 17 | 97 | 99 | 84 | 93 | 97 | 99 | 88 | 92 |
| Level 250 | 9 | *26 | *31 | 4 | 9 | 31 | 38 | 9 | 12 |
|  | 13 | *49 | *57 | *15 | *18 | 57 | 67 | 24 | 30 |
|  | 17 | 82 | 88 | *41 | 62 | 81 | 90 | 51 | 60 |
| Level 300 | 9 | 3 | 4 | 0 | 0 | 3 | 4 | 0 | 0 |
|  | 13 | 11 | 13 | 1 | 2 | 11 | 14 | 2 | 3 |
|  | 17 | 42 | 48 | 8 | 19 | 43 | 51 | 16 | 21 |
| Level 350 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 13 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
|  | 17 | 9 | 10 | 0 | 2 | 9 | 11 | 2 | 2 |

*Statistically significant difference from 1990.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-3 Percentage of students at or above five science proficiency levels, by sex: 1977 and 1990

| Proficiency level | Age | 1977 |  | 1990 |  |
|---|---|---|---|---|---|
|  |  | Male | Female | Male | Female |
| Level 150 | 9 | 94 | 93 | 97 | 97 |
|  | 13 | 99 | 98 | 100 | 100 |
|  | 17 | 100 | 100 | 100 | 100 |
| Level 200 | 9 | *70 | *67 | 76 | 76 |
|  | 13 | *87 | *85 | 93 | 92 |
|  | 17 | 98 | 96 | 97 | 97 |
| Level 250 | 9 | *27 | *24 | 33 | 29 |
|  | 13 | *52 | *45 | 60 | 53 |
|  | 17 | 85 | 78 | 83 | 80 |
| Level 300 | 9 | 4 | 3 | 4 | 2 |
|  | 13 | 13 | 9 | 14 | 9 |
|  | 17 | 49 | 35 | 48 | 39 |
| Level 350 | 9 | 0 | 0 | 0 | 0 |
|  | 13 | 1 | 0 | 1 | 0 |
|  | 17 | 12 | 5 | 13 | 6 |

*Statistically significant difference from 1990.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-4 Percentage of 17-year-olds who have taken science subjects for a year or more, by subject and by sex and race/ethnicity: 1982–1990

| Subject/year | Total | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|
| | | Male | Female | White | Black | Hispanic |
| General science | | | | | | |
| 1982 | 61 | 63 | 59 | 61 | 66 | 58 |
| 1986 | *69 | *71 | *67 | *71 | 62 | 64 |
| 1990 | 56 | 60 | 53 | 56 | 58 | 69 |
| Life science | | | | | | |
| 1982 | 27 | 29 | 26 | 27 | 27 | 31 |
| 1986 | *40 | *45 | 34 | *40 | 40 | 41 |
| 1990 | 30 | 32 | 28 | 28 | 35 | 44 |
| Physical science | | | | | | |
| 1982 | *33 | *33 | 33 | 32 | 34 | 35 |
| 1986 | 41 | 43 | 40 | 41 | 45 | 37 |
| 1990 | 41 | 42 | 40 | 39 | 47 | 55 |
| Earth and space science | | | | | | |
| 1982 | *27 | 30 | *25 | 28 | 28 | 20 |
| 1986 | 38 | 41 | 34 | 38 | 44 | 23 |
| 1990 | 35 | 35 | 34 | 34 | 35 | 38 |
| Biology | | | | | | |
| 1982 | *76 | *74 | *78 | *78 | *66 | 62 |
| 1986 | 80 | 78 | 82 | 81 | 77 | 70 |
| 1990 | 85 | 82 | 87 | 86 | 79 | 78 |
| Chemistry | | | | | | |
| 1982 | *31 | *31 | *30 | *33 | *19 | 13 |
| 1986 | *33 | 34 | *31 | *35 | *23 | 16 |
| 1990 | 42 | 40 | 45 | 44 | 36 | 26 |
| Physics | | | | | | |
| 1982 | 11 | 14 | 9 | 11 | 12 | 9 |
| 1986 | 11 | 13 | 8 | 11 | 9 | 7 |
| 1990 | 10 | 12 | 9 | 9 | 13 | 11 |

NOTE: The information reported in this table for 17-year-olds in 1990 was obtained from a different, but comparable, sample of 17-year-olds than the sample from which all other information for 17-year-olds in 1990 was obtained.

*Statistically significant difference from 1990.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-5 Standard errors for estimated scale scores and percentages in text table for *Indicator 14*

| Year | Age 9 | | | | Age 13 | | | | Age 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All races | White | Black | Hispanic | All races | White | Black | Hispanic | All races | White | Black | Hispanic |
| 1970 | 1.2 | 0.9 | 1.9 | — | 1.1 | 0.8 | 2.4 | — | 1.0 | 0.8 | 1.5 | — |
| 1973 | 1.2 | 0.9 | 1.9 | — | 1.1 | 0.8 | 2.4 | — | 1.0 | 0.8 | 1.5 | — |
| 1977 | 1.2 | 0.9 | 1.8 | 2.7 | 1.1 | 0.8 | 2.4 | 1.9 | 1.0 | 0.7 | 1.5 | 2.2 |
| 1982 | 1.8 | 1.9 | 3.0 | 4.2 | 1.3 | 1.1 | 1.3 | 3.9 | 1.2 | 1.0 | 1.7 | 2.3 |
| 1986 | 1.2 | 1.2 | 1.9 | 3.1 | 1.4 | 1.4 | 2.5 | 3.1 | 1.4 | 1.7 | 2.9 | 3.8 |
| 1990 | 0.8 | 0.8 | 2.0 | 2.2 | 0.9 | 0.9 | 3.1 | 2.6 | 1.1 | 1.1 | 4.5 | 4.4 |

| Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1970 | 1.3 | 1.2 | 1.3 | 1.2 | 1.2 | 1.1 |
| 1973 | 1.3 | 1.2 | 1.3 | 1.2 | 1.2 | 1.1 |
| 1977 | 1.3 | 1.2 | 1.3 | 1.2 | 1.2 | 1.1 |
| 1982 | 2.3 | 2.0 | 1.5 | 1.3 | 1.4 | 1.3 |
| 1986 | 1.4 | 1.4 | 1.6 | 1.5 | 1.9 | 1.5 |
| 1990 | 1.1 | 1.0 | 1.1 | 1.1 | 1.3 | 1.6 |

—Not available.

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-6 Standard errors for estimated percentages and scale scores in table 14-1

| Parents' highest level of education | Year | Age 9 | | Age 13 | | Age 17 | |
|---|---|---|---|---|---|---|---|
| | | Percent of students | Average proficiency | Percent of students | Average proficiency | Percent of students | Average proficiency |
| Less than high school | | | | | | | |
| | 1977 | 0.4 | 2.2 | 0.7 | 1.3 | 0.9 | 1.3 |
| | 1982 | 0.9 | 6.0 | 0.6 | 1.9 | 0.7 | 2.4 |
| | 1986 | 0.4 | 2.9 | 1.0 | 2.7 | 0.4 | 3.1 |
| | 1990 | 0.4 | 2.7 | 0.5 | 2.1 | 0.6 | 2.8 |
| Graduated from high school | | | | | | | |
| | 1977 | 0.5 | 1.4 | 0.6 | 1.1 | 0.6 | 0.8 |
| | 1982 | 1.1 | 3.3 | 1.1 | 1.3 | 0.9 | 1.6 |
| | 1986 | 0.7 | 1.5 | 1.2 | 1.4 | 1.1 | 2.0 |
| | 1990 | 0.7 | 1.7 | 0.8 | 1.3 | 1.1 | 1.4 |
| More than high school | | | | | | | |
| | 1977 | 0.3 | 1.5 | 0.5 | 1.3 | 0.4 | 1.1 |
| | 1982 | 0.6 | 3.2 | 0.6 | 1.5 | 0.6 | 1.7 |
| | 1986 | 0.6 | 2.6 | 0.6 | 1.4 | 1.0 | 2.5 |
| | 1990 | 0.4 | 2.1 | 0.6 | 1.2 | 0.9 | 1.6 |
| Graduated college | | | | | | | |
| | 1977 | 0.7 | 1.4 | 1.0 | 1.0 | 1.2 | 1.0 |
| | 1982 | 2.3 | 2.3 | 1.5 | 1.5 | 1.4 | 1.7 |
| | 1986 | 1.1 | 1.4 | 2.2 | 1.9 | 1.2 | 2.1 |
| | 1990 | 1.1 | 1.3 | 1.2 | 1.1 | 1.3 | 1.7 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-7 Standard error for estimated percentages in table 14-2

| Proficiency level | Age | 1977 | | | | 1990 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| Level 150 | 9 | 0.6 | 0.3 | 1.8 | 1.8 | 0.3 | 0.2 | 1.3 | 1.5 |
| | 13 | 0.2 | 0.1 | 1.0 | 1.3 | 0.1 | 0.1 | 0.6 | 0.6 |
| | 17 | 0.0 | 0.0 | 0.3 | 0.2 | 0.2 | 0.7 | 0.7 | 0.9 |
| Level 200 | 9 | 1.1 | 0.7 | 1.5 | 3.1 | 0.9 | 0.7 | 3.1 | 3.7 |
| | 13 | 0.7 | 0.5 | 2.4 | 2.4 | 0.7 | 0.4 | 3.6 | 2.9 |
| | 17 | 0.2 | 0.1 | 1.3 | 1.7 | 0.3 | 0.2 | 1.9 | 2.2 |
| Level 250 | 9 | 0.7 | 0.7 | 0.6 | 1.7 | 0.8 | 1.1 | 1.1 | 2.1 |
| | 13 | 1.1 | 0.9 | 1.7 | 1.8 | 1.0 | 1.2 | 3.3 | 2.8 |
| | 17 | 0.7 | 0.4 | 1.5 | 1.7 | 0.9 | 0.8 | 3.7 | 5.0 |
| Level 300 | 9 | 0.3 | 0.3 | 0.1 | 0.4 | 0.3 | 0.4 | 0.2 | 0.4 |
| | 13 | 0.5 | 0.5 | 0.4 | 0.8 | 0.6 | 0.8 | 0.5 | 0.8 |
| | 17 | 0.9 | 0.7 | 1.0 | 2.1 | 1.3 | 1.5 | 4.0 | 3.3 |
| Level 350 | 9 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 |
| | 13 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| | 17 | 0.4 | 0.4 | 0.2 | 0.6 | 0.5 | 0.7 | 0.8 | 1.6 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 14-8 Standard errors for estimated percentages in table 14-3

| Proficiency level | Age | 1977 | | 1990 | |
|---|---|---|---|---|---|
| | | Male | Female | Male | Female |
| Level 150 | 9 | 0.5 | 0.7 | 0.5 | 0.4 |
| | 13 | 0.2 | 0.2 | 0.1 | 0.2 |
| | 17 | 0.0 | 0.1 | 0.2 | 0.2 |
| Level 200 | 9 | 1.2 | 1.1 | 1.2 | 1.1 |
| | 13 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 17 | 0.2 | 0.3 | 0.5 | 0.6 |
| Level 250 | 9 | 0.9 | 0.9 | 1.1 | 1.0 |
| | 13 | 1.3 | 1.2 | 1.3 | 1.4 |
| | 17 | 0.7 | 1.0 | 1.2 | 1.4 |
| Level 300 | 9 | 0.3 | 0.3 | 0.6 | 0.3 |
| | 13 | 0.6 | 0.5 | 0.9 | 0.6 |
| | 17 | 1.1 | 1.0 | 1.6 | 1.7 |
| Level 350 | 9 | 0.0 | 0.0 | 0.1 | 0.1 |
| | 13 | 0.2 | 0.1 | 0.2 | 0.1 |
| | 17 | 0.6 | 0.4 | 0.8 | 0.5 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

### Table 14-9 Standard errors for estimated percentages in table 14-4

| Subject/year | Total | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|
| | | Male | Female | White | Black | Hispanic |
| General science | | | | | | |
| 1982 | 1.6 | 1.7 | 1.6 | 1.8 | 2.2 | 1.9 |
| 1986 | 1.6 | 2.1 | 1.9 | 1.7 | 2.8 | 3.2 |
| 1990 | 2.2 | 2.7 | 2.4 | 2.3 | 4.4 | 7.3 |
| Life science | | | | | | |
| 1982 | 1.1 | 1.2 | 1.3 | 1.2 | 2.9 | 4.0 |
| 1986 | 2.0 | 2.5 | 2.1 | 2.1 | 3.7 | 4.7 |
| 1990 | 1.8 | 2.0 | 2.3 | 1.8 | 5.5 | 7.5 |
| Physical science | | | | | | |
| 1982 | 2.1 | 2.1 | 2.3 | 2.3 | 4.2 | 11.2 |
| 1986 | 3.0 | 3.2 | 3.4 | 3.5 | 3.5 | 3.9 |
| 1990 | 3.0 | 3.0 | 3.4 | 2.9 | 6.3 | 10.0 |
| Earth and space science | | | | | | |
| 1982 | 1.9 | 1.9 | 2.1 | 2.1 | 2.8 | 2.6 |
| 1986 | 1.8 | 2.3 | 2.2 | 2.2 | 3.5 | 3.0 |
| 1990 | 2.2 | 2.0 | 2.6 | 2.3 | 4.3 | 9.3 |
| Biology | | | | | | |
| 1982 | 1.7 | 1.7 | 1.9 | 2.0 | 2.0 | 8.3 |
| 1986 | 1.8 | 2.3 | 1.8 | 2.3 | 2.8 | 3.7 |
| 1990 | 1.5 | 2.1 | 1.4 | 1.7 | 3.2 | 8.7 |
| Chemistry | | | | | | |
| 1982 | 1.7 | 1.6 | 2.0 | 1.9 | 1.6 | 2.6 |
| 1986 | 1.7 | 2.2 | 2.1 | 2.0 | 2.5 | 2.8 |
| 1990 | 1.5 | 1.9 | 1.7 | 2.1 | 3.4 | 7.2 |
| Physics | | | | | | |
| 1982 | 0.9 | 1.2 | 0.9 | 1.0 | 1.3 | 1.9 |
| 1986 | 0.9 | 1.4 | 1.3 | 1.1 | 1.2 | 2.3 |
| 1990 | 0.9 | 1.0 | 1.1 | 1.0 | 2.2 | 4.6 |

SOURCE: National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of American Students in Science, 1969–70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990*, 1991.

## Table 15-1 Distribution of proficiency scores of 9-year-olds on mathematics assessment, by country: 1991

| Country | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive Populations** | | | | | | | | | | |
| Canada[1] | 430 | 430 | 431 | 296 | 337 | 363 | 435 | 490 | 506 | 537 |
| Hungary | 452 | 452 | 452 | 312 | 357 | 379 | 455 | 520 | 536 | 573 |
| Ireland | 426 | 425 | 427 | 273 | 317 | 345 | 433 | 493 | 514 | 545 |
| Israel[2] | 442 | 447 | 438 | 310 | 347 | 373 | 445 | 504 | 523 | 555 |
| Korea | 473 | 480 | 465 | 334 | 383 | 407 | 475 | 534 | 550 | 586 |
| Slovenia | 413 | 413 | 414 | 303 | 336 | 355 | 417 | 467 | 482 | 508 |
| Soviet Union[3] | 447 | 448 | 446 | 310 | 349 | 374 | 450 | 514 | 532 | 579 |
| Spain[4] | 432 | 432 | 432 | 287 | 330 | 353 | 437 | 499 | 518 | 551 |
| Taiwan | 454 | 455 | 453 | 304 | 360 | 384 | 457 | 521 | 539 | 571 |
| United States[5] | 420 | 422 | 419 | 278 | 305 | 333 | 427 | 492 | 513 | 549 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| England[6] | 427 | 427 | 427 | 292 | 322 | 352 | 428 | 501 | 521 | 556 |
| Italy, Emilia-Romagna[6] | 451 | 456 | 446 | 315 | 360 | 386 | 453 | 518 | 536 | 570 |
| Portugal[7] | 418 | 422 | 414 | 284 | 327 | 347 | 422 | 485 | 500 | 530 |
| Scotland[6] | 446 | 446 | 446 | 314 | 356 | 382 | 447 | 511 | 525 | 559 |
| **Canadian Populations** | | | | | | | | | | |
| British Columbia | 434 | 433 | 434 | 291 | 336 | 365 | 437 | 497 | 512 | 548 |
| New Brunswick-English | 427 | 429 | 426 | 288 | 326 | 353 | 433 | 489 | 505 | 540 |
| Ontario-English | 420 | 417 | 421 | 286 | 321 | 351 | 425 | 482 | 497 | 527 |
| Ontario-French | 414 | 415 | 414 | 292 | 333 | 353 | 419 | 470 | 482 | 512 |
| Quebec-English | 435 | 437 | 434 | 294 | 334 | 365 | 440 | 499 | 518 | 549 |
| Quebec-French | 443 | 444 | 441 | 318 | 356 | 380 | 447 | 497 | 513 | 540 |

[1] Four out of 10 provinces.

[2] Hebrew-speaking schools.

[3] Fourteen out of 15 republics; Russian-speaking schools.

[4] All regions except Cataluña; Spanish-speaking schools.

[5] Combined school and student participation rate is below .80 but at least .70; interpret results with caution because of possible nonresponse bias.

[6] Combined school and student participation rate is below .70; interpret results with extreme caution because of possible nonresponse bias.

[7] Restricted grades.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 15-2 Distribution of proficiency scores of 13-year-olds on mathematics assessment, by country: 1991

| Country | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada[1] | 513 | 515 | 512 | 400 | 443 | 462 | 515 | 564 | 580 | 608 |
| France | 519 | 523 | 515 | 404 | 442 | 460 | 521 | 574 | 588 | 616 |
| Hungary | 529 | 528 | 528 | 401 | 447 | 465 | 531 | 588 | 605 | 639 |
| Ireland | 509 | 514 | 505 | 381 | 425 | 449 | 514 | 565 | 580 | 614 |
| Israel[2] | 517 | 520 | 514 | 396 | 441 | 462 | 520 | 567 | 578 | 607 |
| Italy, Emilia-Romagna[3] | 517 | 521 | 513 | 402 | 444 | 459 | 522 | 569 | 581 | 610 |
| Jordan | 458 | 461 | 454 | 345 | 371 | 390 | 459 | 520 | 539 | 568 |
| Korea | 542 | 546 | 537 | 390 | 445 | 470 | 545 | 609 | 629 | 665 |
| Scotland[3] | 511 | 511 | 512 | 400 | 438 | 454 | 513 | 564 | 580 | 604 |
| Slovenia | 504 | 506 | 501 | 407 | 432 | 445 | 507 | 556 | 570 | 599 |
| Soviet Union[4] | 533 | 533 | 532 | 413 | 458 | 477 | 536 | 584 | 596 | 629 |
| Spain[5] | 495 | 498 | 492 | 390 | 429 | 446 | 496 | 542 | 556 | 577 |
| Switzerland[6] | 539 | 544 | 534 | 443 | 475 | 491 | 542 | 586 | 598 | 631 |
| Taiwan | 545 | 546 | 544 | 368 | 424 | 454 | 550 | 631 | 659 | 694 |
| United States[3] | 494 | 494 | 494 | 366 | 407 | 430 | 495 | 554 | 574 | 616 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| Brazil, Fortaleza[7] | 432 | 442 | 425 | 319 | 345 | 364 | 429 | 502 | 519 | 544 |
| Brazil, Sao Paulo[8] | 444 | 445 | 443 | 331 | 358 | 378 | 441 | 515 | 531 | 554 |
| China[9] | 561 | 565 | 556 | 457 | 491 | 508 | 559 | 613 | 633 | 662 |
| England[10] | 511 | 510 | 511 | 371 | 424 | 448 | 512 | 573 | 590 | 617 |
| Mozambique[10,11] | 427 | 431 | 424 | 346 | 370 | 385 | 429 | 468 | 478 | 503 |
| Portugal[3,7] | 483 | 485 | 482 | 369 | 406 | 427 | 487 | 535 | 549 | 577 |
| **Canadian Populations** | | | | | | | | | | |
| Alberta | 516 | 517 | 515 | 407 | 446 | 464 | 517 | 567 | 583 | 615 |
| British Columbia | 523 | 524 | 521 | 424 | 455 | 472 | 522 | 575 | 593 | 624 |
| Manitoba-English | 502 | 502 | 502 | 381 | 424 | 448 | 505 | 554 | 565 | 601 |
| Manitoba-French | 516 | 519 | 513 | 413 | 455 | 472 | 516 | 560 | 572 | 594 |
| New Brunswick-English | 501 | 503 | 500 | 381 | 426 | 448 | 503 | 552 | 570 | 598 |
| New Brunswick-French | 509 | 508 | 510 | 394 | 433 | 453 | 513 | 559 | 571 | 591 |
| Newfoundland | 506 | 504 | 509 | 386 | 431 | 454 | 509 | 555 | 571 | 601 |
| Nova Scotia | 509 | 511 | 506 | 395 | 435 | 457 | 510 | 560 | 575 | 613 |
| Ontario-English | 504 | 506 | 502 | 396 | 435 | 453 | 504 | 556 | 572 | 600 |
| Ontario-French | 494 | 493 | 495 | 384 | 423 | 442 | 497 | 538 | 553 | 582 |
| Quebec-English[3] | 523 | 523 | 522 | 408 | 453 | 470 | 522 | 577 | 594 | 630 |
| Quebec-French | 528 | 531 | 525 | 435 | 465 | 481 | 529 | 573 | 587 | 609 |
| Saskatchewan-English | 513 | 516 | 510 | 407 | 438 | 461 | 515 | 562 | 577 | 608 |
| Saskatchewan-French | 525 | 527 | 524 | 447 | 461 | 482 | 525 | 566 | 578 | 601 |

[1] Nine out of 10 provinces.
[2] Hebrew-speaking schools.
[3] Combined school and student participation rate is below .80 but at least .70; interpret results with caution because of possible nonresponse bias.
[4] Fourteen out of 15 republics; Russian-speaking schools.
[5] All regions except Cataluña; Spanish-speaking schools.
[6] Fifteen out of 26 cantons.
[7] In-school population, restricted grades.
[8] Restricted grades.
[9] Twenty out of 29 provinces and independent cities; in-school population, restricted grades.
[10] Combined school and student participation rate is below .70; interpret results with extreme caution because of possible nonresponse bias.
[11] Cities of Maputo and Beira; in-school population.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 15-3 Standard errors for estimated averages and percentiles in table 15-1

| Country | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada | 1.5 | 1.9 | 1.7 | 8.8 | 3.2 | 2.0 | 1.8 | 2.2 | 2.5 | 5.9 |
| Hungary | 1.9 | 2.6 | 2.3 | 11.4 | 2.1 | 5.2 | 3.1 | 1.8 | 3.0 | 3.0 |
| Ireland | 2.3 | 3.1 | 2.7 | 1.5 | 7.0 | 6.3 | 1.8 | 3.6 | 3.0 | 13.3 |
| Israel | 2.1 | 2.3 | 2.6 | 12.5 | 2.5 | 4.0 | 2.3 | 2.4 | 1.8 | 1.5 |
| Korea | 1.8 | 2.0 | 2.4 | 7.5 | 6.8 | 1.9 | 1.4 | 1.8 | 3.5 | 2.5 |
| Slovenia | 1.4 | 1.8 | 1.9 | 9.5 | 3.2 | 2.7 | 2.2 | 2.4 | 1.9 | 2.7 |
| Soviet Union | 3.3 | 3.2 | 3.8 | 5.9 | 4.1 | 5.5 | 3.9 | 2.4 | 5.4 | 5.9 |
| Spain | 2.9 | 3.8 | 3.0 | 1.6 | 4.9 | 4.1 | 3.4 | 3.1 | 3.3 | 2.7 |
| Taiwan | 2.2 | 2.4 | 2.7 | 5.7 | 4.4 | 3.3 | 1.8 | 4.8 | 3.1 | 1.1 |
| United States | 3.2 | 3.6 | 3.7 | 4.5 | 2.9 | 5.7 | 2.9 | 5.0 | 5.7 | 1.5 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| England | 5.7 | 4.7 | 8.9 | 5.3 | 6.1 | 4.5 | 4.8 | 7.2 | 5.6 | 12.3 |
| Italy, Emilia-Romagna | 2.6 | 2.9 | 3.3 | 7.4 | 6.3 | 4.7 | 4.3 | 8.1 | 7.5 | 7.4 |
| Portugal | 2.9 | 3.2 | 3.6 | 8.5 | 1.1 | 3.1 | 2.0 | 2.6 | 6.6 | 4.8 |
| Scotland | 2.4 | 3.1 | 3.3 | 10.8 | 5.4 | 3.9 | 3.0 | 3.9 | 3.9 | 14.7 |
| **Canadian Populations** | | | | | | | | | | |
| British Columbia | 2.0 | 2.8 | 2.5 | 3.9 | 4.9 | 3.9 | 2.7 | 2.2 | 3.2 | 6.0 |
| New Brunswick-English | 1.5 | 2.2 | 1.9 | 5.9 | 3.7 | 2.5 | 1.2 | 3.2 | 1.5 | 4.3 |
| Ontario-English | 2.0 | 2.5 | 2.4 | 2.7 | 4.1 | 1.5 | 2.9 | 2.0 | 1.9 | 10.3 |
| Ontario-French | 1.6 | 1.8 | 1.9 | 6.1 | 2.7 | 4.2 | 3.1 | 2.5 | 1.9 | 2.7 |
| Quebec-English | 2.3 | 2.6 | 3.2 | 7.5 | 5.8 | 5.4 | 2.9 | 2.7 | 3.5 | 7.8 |
| Quebec-French | 2.0 | 2.2 | 2.4 | 14.6 | 2.2 | 4.4 | 2.2 | 1.4 | 3.4 | 2.0 |

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 15-4 Standard errors for estimated averages and percentiles in table 15-2

| Country | Average proficiency score | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada | 1.4 | 1.8 | 1.6 | 12.9 | 3.8 | 1.9 | 1.4 | 2.1 | 2.8 | 3.2 |
| France | 1.8 | 2.1 | 2.1 | 4.0 | 2.4 | 1.8 | 0.8 | 3.8 | 4.1 | 8.3 |
| Hungary | 2.0 | 2.6 | 2.4 | 1.8 | 8.0 | 2.1 | 1.5 | 2.8 | 3.0 | 5.2 |
| Ireland | 2.0 | 2.6 | 2.6 | 9.9 | 6.8 | 3.2 | 1.5 | 3.4 | 1.9 | 6.4 |
| Israel | 1.8 | 2.1 | 2.3 | 4.9 | 1.7 | 2.0 | 1.9 | 2.4 | 0.6 | 6.6 |
| Italy, Emilia-Romagna | 2.0 | 2.5 | 2.1 | 4.0 | 2.7 | 1.6 | 2.4 | 1.0 | 1.5 | 3.4 |
| Jordan | 2.6 | 3.2 | 4.8 | 7.8 | 3.2 | 2.4 | 2.3 | 3.5 | 7.5 | 8.5 |
| Korea | 1.9 | 2.7 | 2.6 | 11.8 | 4.6 | 3.9 | 1.4 | 7.7 | 3.0 | 3.3 |
| Scotland | 2.0 | 2.2 | 2.3 | 7.4 | 4.6 | 1.9 | 3.3 | 2.0 | 2.2 | 2.5 |
| Slovenia | 1.7 | 1.9 | 2.2 | 4.2 | 2.6 | 0.9 | 2.0 | 2.1 | 4.8 | 3.1 |
| Soviet Union | 2.2 | 2.8 | 1.9 | 5.5 | 4.5 | 3.5 | 2.0 | 1.5 | 3.6 | 5.0 |
| Spain | 1.8 | 2.5 | 1.9 | 18.4 | 2.0 | 1.9 | 3.0 | 2.9 | 1.9 | 4.2 |
| Switzerland | 2.7 | 3.2 | 2.6 | 3.3 | 3.3 | 4.2 | 2.5 | 1.7 | 2.4 | 10.3 |
| Taiwan | 2.0 | 3.1 | 2.5 | 9.9 | 7.3 | 4.9 | 1.7 | 3.5 | 9.0 | 2.4 |
| United States | 2.9 | 3.1 | 3.3 | 8.4 | 5.8 | 5.7 | 3.2 | 2.7 | 5.7 | 10.1 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| Brazil, Fortaleza | 2.2 | 3.0 | 2.5 | 1.6 | 4.2 | 5.6 | 3.7 | 2.0 | 4.6 | 7.9 |
| Brazil, Sao Paulo | 2.7 | 3.0 | 2.9 | 3.6 | 2.4 | 2.4 | 2.7 | 2.0 | 1.5 | 0.9 |
| China | 3.1 | 3.0 | 3.5 | 9.3 | 3.9 | 3.7 | 2.4 | 5.6 | 7.9 | 5.8 |
| England | 5.2 | 7.0 | 5.1 | 2.0 | 10.8 | 6.5 | 5.2 | 4.4 | 6.5 | 5.9 |
| Mozambique | 1.2 | 1.6 | 1.8 | 6.0 | 4.3 | 2.2 | 1.2 | 1.3 | 1.1 | 1.3 |
| Portugal | 2.1 | 3.1 | 2.3 | 4.2 | 3.2 | 3.9 | 2.8 | 4.1 | 2.1 | 10.4 |
| **Canadian Populations** | | | | | | | | | | |
| Alberta | 1.7 | 2.0 | 1.9 | 3.6 | 3.5 | 3.2 | 1.9 | 2.6 | 4.8 | 4.4 |
| British Columbia | 1.6 | 1.7 | 2.2 | 3.1 | 5.2 | 1.1 | 0.8 | 0.7 | 4.4 | 6.3 |
| Manitoba-English | 1.9 | 2.2 | 2.2 | 6.5 | 4.9 | 2.5 | 2.9 | 2.6 | 2.0 | 11.4 |
| Manitoba-French | 1.5 | 2.6 | 1.9 | 6.6 | 4.0 | 3.3 | 2.1 | 0.8 | 1.5 | 5.6 |
| New Brunswick-English | 1.2 | 1.6 | 1.7 | 6.6 | 3.5 | 3.2 | 1.0 | 1.7 | 3.2 | 7.4 |
| New Brunswick-French | 0.9 | 1.5 | 1.5 | 10.0 | 2.4 | 2.2 | 1.2 | 1.4 | 3.6 | 2.5 |
| Newfoundland | 1.5 | 1.8 | 1.7 | 18.6 | 6.9 | 2.6 | 0.9 | 1.8 | 1.0 | 8.1 |
| Nova Scotia | 1.2 | 1.9 | 1.5 | 5.5 | 1.0 | 3.3 | 0.6 | 2.3 | 4.6 | 5.9 |
| Ontario-English | 2.0 | 2.5 | 2.1 | 4.0 | 2.3 | 1.4 | 2.1 | 3.2 | 4.1 | 8.1 |
| Ontario-French | 1.4 | 2.1 | 1.6 | 11.7 | 2.1 | 4.3 | 1.0 | 2.3 | 3.9 | 11.0 |
| Quebec-English | 2.5 | 4.3 | 1.9 | 2.7 | 5.2 | 3.8 | 1.2 | 3.6 | 3.0 | 4.1 |
| Quebec-French | 1.7 | 2.4 | 1.8 | 7.4 | 3.3 | 2.5 | 2.4 | 2.2 | 2.6 | 1.2 |
| Saskatchewan-English | 1.7 | 2.1 | 2.4 | 7.7 | 6.5 | 2.3 | 2.8 | 1.7 | 2.4 | 5.6 |
| Saskatchewan-French | 2.4 | 3.1 | 3.6 | 43.2 | 1.2 | 9.1 | 4.4 | 10.8 | 8.5 | 6.9 |

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Note on proficiency scores for IAEP mathematics and science

Indicators 15 and 16 contain mean proficiency scores and standard errors for each population participating in the Second International Assessment of Educational Progress (IAEP). Proficiency scores allow the comparison of average proficiency across age groups within and between countries. Mean proficiency scores and standard errors were obtained following a series of different statistical analyses: item parameters estimation using item response theory (IRT), vertical equating of 9- and 13-year-old scales, and plausible values technology for estimation of proficiency distributions.

First, for each age group in mathematics and science, a random sample of 200 students was drawn from each participating population to build a reference population. Then, a three parameter logistic item response model was fitted using this reference population. Following examinations of goodness of fit statistics and consultation with content specialists, no items were excluded from the item parameter estimation.

Since there were some common items for 9- and 13-year-olds, it was possible to equate item parameter estimates to put proficiency scores for these two age groups on the same proficiency scale. This was done with a linear transformation of the 9-year-olds item parameters estimates using 13-year-olds item parameters estimates as the target scale. Finally, five draws from each student's proficiency distribution were obtained using plausible values technology developed for the National Assessment of Educational Progress (NAEP). This technology used three different sets of values as input: Item parameters estimates from the reference population, students' item mathematics or science response, and students' answers to the background questions.

The proficiency scores were rescaled to give a mean of 500 and a standard deviation of 100. To do so, the proficiency scores for all the participating populations were merged, 9- and 13-year-olds together. An overall mean and an overall standard deviation were then calculated using the individual students' weights. These values were used to transform linearly the five proficiency scores of each student on the targeted scale with mean and standard deviation as previously fixed (500, 100).

Population mean proficiency scores were computed as the average of the five proficiency score means. Computation of standard errors of these means included contribution from two sources: A first contribution made use of the sampling plan and consisted of the jackknifed standard error of the first proficiency score. A second contribution was linked to the variation implicit in the presence of five possible proficiency scores. These two quantities were combined to give information concerning the variability of the results.

## Table 16-1 Distribution of proficiency scores of 9-year-olds on science assessment, by country: 1991

| Country | Average proficiency scores | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada[1] | 437 | 439 | 434 | 257 | 316 | 346 | 443 | 517 | 538 | 582 |
| Hungary | 438 | 443 | 434 | 270 | 331 | 360 | 441 | 511 | 534 | 567 |
| Ireland | 401 | 409 | 393 | 221 | 258 | 289 | 408 | 496 | 515 | 561 |
| Israel[2] | 431 | 440 | 423 | 247 | 309 | 337 | 430 | 524 | 553 | 595 |
| Korea | 460 | 474 | 446 | 303 | 357 | 383 | 460 | 541 | 563 | 609 |
| Slovenia | 403 | 406 | 401 | 262 | 299 | 325 | 405 | 478 | 497 | 528 |
| Soviet Union[3] | 434 | 441 | 428 | 284 | 328 | 356 | 433 | 515 | 547 | 588 |
| Spain[4] | 430 | 439 | 421 | 250 | 305 | 334 | 435 | 522 | 541 | 567 |
| Taiwan | 456 | 466 | 445 | 254 | 321 | 359 | 458 | 553 | 576 | 627 |
| United States[5] | 446 | 451 | 441 | 235 | 292 | 328 | 453 | 543 | 567 | 605 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| England[6] | 438 | 441 | 435 | 245 | 300 | 329 | 445 | 529 | 554 | 604 |
| Italy, Emilia-Romagna[6] | 459 | 465 | 454 | 293 | 345 | 371 | 460 | 547 | 569 | 626 |
| Portugal[7] | 394 | 402 | 387 | 233 | 280 | 306 | 395 | 480 | 499 | 549 |
| Scotland[6] | 433 | 434 | 432 | 248 | 314 | 339 | 436 | 515 | 538 | 568 |
| **Canadian populations** | | | | | | | | | | |
| British Columbia | 455 | 455 | 455 | 269 | 336 | 368 | 463 | 531 | 551 | 590 |
| New Brunswick-English | 429 | 429 | 429 | 223 | 273 | 319 | 440 | 516 | 542 | 579 |
| Ontario-English | 434 | 437 | 431 | 242 | 296 | 334 | 443 | 521 | 544 | 581 |
| Ontario-French | 402 | 402 | 403 | 255 | 294 | 321 | 401 | 480 | 502 | 545 |
| Quebec-English | 438 | 443 | 434 | 259 | 312 | 339 | 443 | 530 | 549 | 594 |
| Quebec-French | 437 | 439 | 434 | 283 | 329 | 358 | 441 | 512 | 531 | 567 |

[1] Four out of 10 provinces.

[2] Hebrew-speaking schools.

[3] Fourteen out of 15 republics; Russian-speaking schools.

[4] All regions except Cataluña; Spanish-speaking schools.

[5] Combined school and student participation rate is below .80 but at least .70; interpret results with caution because of possible nonresponse bias.

[6] Combined school and student participation rate is below .70; interpret results with extreme caution because of possible nonresponse bias.

[7] Restricted grades.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 16-2 Distribution of proficiency scores of 13-year-olds on science assessment, by country: 1991

| Country | Average proficiency scores | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada[1] | 533 | 539 | 527 | 384 | 434 | 460 | 534 | 606 | 628 | 670 |
| France | 532 | 540 | 524 | 370 | 417 | 442 | 534 | 611 | 639 | 677 |
| Hungary | 553 | 563 | 544 | 386 | 436 | 467 | 555 | 639 | 665 | 717 |
| Ireland | 510 | 521 | 499 | 334 | 391 | 418 | 511 | 594 | 616 | 668 |
| Israel[2] | 534 | 543 | 527 | 379 | 426 | 449 | 536 | 614 | 635 | 676 |
| Italy, Emilia-Romagna[3] | 537 | 545 | 529 | 384 | 432 | 459 | 538 | 612 | 632 | 672 |
| Jordan | 473 | 475 | 470 | 292 | 342 | 375 | 480 | 557 | 584 | 628 |
| Korea | 571 | 580 | 559 | 395 | 457 | 490 | 575 | 648 | 670 | 710 |
| Scotland[3] | 530 | 535 | 525 | 363 | 416 | 441 | 532 | 611 | 631 | 674 |
| Slovenia | 537 | 544 | 530 | 398 | 434 | 461 | 539 | 615 | 638 | 671 |
| Soviet Union[4] | 541 | 546 | 535 | 383 | 438 | 465 | 545 | 612 | 629 | 661 |
| Spain[5] | 525 | 531 | 519 | 380 | 428 | 453 | 524 | 596 | 617 | 663 |
| Switzerland[6] | 562 | 573 | 551 | 408 | 467 | 491 | 566 | 637 | 662 | 701 |
| Taiwan | 563 | 567 | 560 | 339 | 420 | 463 | 572 | 655 | 673 | 715 |
| United States[3] | 521 | 530 | 513 | 334 | 410 | 436 | 523 | 601 | 627 | 665 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| Brazil, Fortaleza[7] | 426 | 439 | 416 | 279 | 313 | 333 | 425 | 520 | 542 | 589 |
| Brazil, Sao Paulo[8] | 454 | 469 | 442 | 305 | 333 | 354 | 454 | 545 | 578 | 629 |
| China[9] | 526 | 535 | 517 | 355 | 411 | 439 | 528 | 608 | 638 | 683 |
| England[10] | 532 | 537 | 528 | 358 | 415 | 443 | 535 | 615 | 639 | 685 |
| Portugal[3,7] | 506 | 517 | 497 | 339 | 391 | 418 | 509 | 589 | 614 | 654 |
| **Canadian populations** | | | | | | | | | | |
| Alberta | 554 | 564 | 544 | 407 | 456 | 483 | 556 | 624 | 643 | 683 |
| British Columbia | 548 | 552 | 545 | 407 | 453 | 479 | 552 | 613 | 636 | 676 |
| Manitoba-English | 531 | 536 | 525 | 356 | 417 | 445 | 533 | 611 | 634 | 671 |
| Manitoba-French | 522 | 533 | 514 | 359 | 426 | 449 | 524 | 594 | 613 | 652 |
| New Brunswick-English | 521 | 527 | 515 | 344 | 406 | 441 | 525 | 597 | 616 | 657 |
| New Brunswick-French | 510 | 511 | 509 | 354 | 399 | 430 | 513 | 585 | 607 | 650 |
| Newfoundland | 521 | 530 | 512 | 361 | 413 | 441 | 522 | 601 | 624 | 663 |
| Nova Scotia | 532 | 537 | 527 | 364 | 428 | 453 | 534 | 609 | 631 | 668 |
| Ontario-English | 526 | 531 | 520 | 378 | 426 | 453 | 526 | 595 | 622 | 669 |
| Ontario-French | 497 | 503 | 491 | 345 | 401 | 422 | 496 | 572 | 590 | 630 |
| Quebec-English[3] | 535 | 543 | 528 | 386 | 436 | 463 | 536 | 611 | 637 | 675 |
| Quebec-French | 544 | 551 | 536 | 403 | 449 | 475 | 543 | 614 | 638 | 675 |
| Saskatchewan-English | 538 | 544 | 531 | 379 | 435 | 464 | 540 | 611 | 635 | 676 |
| Saskatchewan-French | 517 | 521 | 513 | 380 | 440 | 460 | 513 | 585 | 608 | 639 |

[1] Nine out of 10 provinces.

[2] Hebrew-speaking schools.

[3] Combined school and student participation rate is below .80 but at least .70; interpret results with caution because of possible nonresponse bias.

[4] Fourteen out of 15 republics; Russian-speaking schools.

[5] All regions except Cataluña; Spanish-speaking schools.

[6] Fifteen out of 26 cantons.

[7] In-school population, restricted grades.

[8] Restricted grades.

[9] Twenty out of 29 provinces and independent cities; in-school population, restricted grades.

[10] Combined school and student participation rate is below .70; interpret results with extreme caution because of possible nonresponse bias.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 16-3 Standard errors for estimated averages and percentiles in table 16-1

| Country | Average proficiency scores | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada | 1.9 | 2.3 | 2.3 | 3.5 | 5.5 | 1.8 | 1.9 | 1.0 | 4.0 | 1.3 |
| Hungary | 2.4 | 3.0 | 2.7 | 5.5 | 3.8 | 4.9 | 1.8 | 1.6 | 2.8 | 3.8 |
| Ireland | 3.4 | 4.4 | 4.5 | 3.8 | 3.7 | 7.3 | 5.5 | 7.0 | 5.2 | 7.6 |
| Israel | 3.1 | 4.4 | 3.3 | 17.8 | 3.6 | 7.2 | 3.6 | 6.0 | 4.7 | 8.0 |
| Korea | 2.3 | 3.2 | 2.3 | 8.7 | 5.6 | 3.3 | 2.5 | 1.7 | 3.1 | 5.2 |
| Slovenia | 2.2 | 2.7 | 2.6 | 3.6 | 4.4 | 3.4 | 2.5 | 8.6 | 2.8 | 7.6 |
| Soviet Union | 5.1 | 5.6 | 5.3 | 6.1 | 7.0 | 6.4 | 6.3 | 8.6 | 10.9 | 8.4 |
| Spain | 3.6 | 4.5 | 3.7 | 4.2 | 10.6 | 4.6 | 3.5 | 3.4 | 2.9 | 0.7 |
| Taiwan | 2.7 | 3.0 | 3.8 | 9.2 | 5.3 | 4.1 | 4.1 | 5.4 | 5.6 | 2.9 |
| United States | 4.6 | 6.2 | 4.2 | 2.3 | 9.8 | 6.1 | 2.9 | 2.7 | 3.2 | 6.0 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| England | 4.8 | 6.3 | 6.2 | 13.1 | 11.0 | 7.3 | 3.1 | 4.9 | 8.4 | 5.6 |
| Italy, Emilia-Romagna | 4.2 | 4.8 | 4.7 | 3.9 | 3.1 | 3.6 | 4.8 | 6.6 | 9.1 | 14.2 |
| Portugal | 3.8 | 4.5 | 4.5 | 16.5 | 5.2 | 4.9 | 4.0 | 4.8 | 7.7 | 8.5 |
| Scotland | 3.0 | 3.2 | 4.8 | 21.2 | 4.4 | 7.8 | 4.9 | 2.0 | 6.8 | 9.1 |
| **Canadian populations** | | | | | | | | | | |
| British Columbia | 2.9 | 3.8 | 3.0 | 21.3 | 7.1 | 6.7 | 5.6 | 2.6 | 3.4 | 5.2 |
| New Brunswick-English | 1.9 | 2.4 | 3.6 | 1.1 | 14.2 | 4.7 | 2.1 | 3.6 | 4.1 | 4.1 |
| Ontario-English | 2.7 | 3.5 | 3.4 | 4.4 | 9.4 | 3.9 | 3.0 | 2.2 | 4.5 | 0.6 |
| Ontario-French | 2.2 | 3.4 | 2.5 | 4.5 | 3.4 | 5.8 | 1.5 | 1.4 | 3.6 | 2.4 |
| Quebec-English | 3.3 | 4.2 | 4.2 | 13.0 | 5.0 | 7.5 | 3.2 | 2.3 | 2.1 | 9.9 |
| Quebec-French | 2.5 | 3.2 | 2.8 | 10.1 | 9.8 | 3.5 | 3.9 | 2.3 | 2.9 | 8.9 |

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 16-4 Standard errors for estimated averages and percentiles in table 16-2

| Country | Average proficiency scores | | | Percentile scores | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | 1st | 5th | 10th | Median | 90th | 95th | 99th |
| **Comprehensive populations** | | | | | | | | | | |
| Canada | 1.6 | 2.1 | 1.5 | 3.2 | 1.1 | 3.1 | 1.1 | 2.2 | 1.7 | 6.6 |
| France | 2.5 | 3.0 | 3.0 | 1.9 | 6.0 | 4.8 | 1.8 | 3.3 | 2.3 | 6.0 |
| Hungary | 2.5 | 3.0 | 3.0 | 7.0 | 7.9 | 4.0 | 2.1 | 3.6 | 4.9 | 1.7 |
| Ireland | 2.5 | 3.3 | 3.5 | 9.5 | 2.1 | 5.9 | 2.8 | 3.4 | 3.5 | 8.0 |
| Israel | 2.8 | 3.6 | 3.3 | 10.2 | 3.9 | 3.8 | 3.3 | 3.3 | 5.4 | 8.3 |
| Italy, Emilia-Romagna | 2.5 | 3.3 | 3.1 | 6.8 | 3.0 | 2.6 | 1.2 | 1.9 | 3.1 | 5.7 |
| Jordan | 3.3 | 3.6 | 5.5 | 17.0 | 3.1 | 2.5 | 2.6 | 5.1 | 6.7 | 14.9 |
| Korea | 2.3 | 3.0 | 3.2 | 16.5 | 8.1 | 5.1 | 2.7 | 3.9 | 2.6 | 4.7 |
| Scotland | 2.8 | 3.3 | 3.7 | 1.0 | 3.3 | 4.4 | 2.8 | 5.8 | 5.9 | 4.1 |
| Slovenia | 2.2 | 3.1 | 2.6 | 9.0 | 5.5 | 8.7 | 2.3 | 2.9 | 7.4 | 15.0 |
| Soviet Union | 3.5 | 3.9 | 3.6 | 8.8 | 9.6 | 4.9 | 3.1 | 5.5 | 3.9 | 3.8 |
| Spain | 2.3 | 3.0 | 2.9 | 4.2 | 1.4 | 2.8 | 2.7 | 3.4 | 2.9 | 4.8 |
| Switzerland | 3.6 | 4.8 | 3.5 | 7.8 | 4.1 | 4.9 | 2.6 | 3.0 | 3.4 | 1.4 |
| Taiwan | 1.9 | 2.8 | 2.5 | 11.4 | 3.3 | 3.3 | 2.4 | 2.7 | 2.9 | 6.5 |
| United States | 4.4 | 5.6 | 3.6 | 8.4 | 6.5 | 7.5 | 4.0 | 4.9 | 3.9 | 8.0 |
| **Populations with exclusions or low participation** | | | | | | | | | | |
| Brazil, Fortaleza | 3.6 | 3.7 | 4.6 | 3.9 | 9.4 | 1.9 | 2.6 | 4.3 | 3.3 | 3.2 |
| Brazil, Sao Paulo | 2.9 | 3.6 | 3.4 | 1.7 | 2.4 | 3.2 | 2.6 | 4.9 | 6.8 | 6.1 |
| China | 4.7 | 5.2 | 4.4 | 4.9 | 6.1 | 8.2 | 6.9 | 8.3 | 7.9 | 16.2 |
| England | 5.0 | 6.6 | 7.9 | 13.3 | 7.7 | 7.9 | 4.0 | 3.7 | 8.0 | 2.0 |
| Portugal | 3.4 | 4.4 | 3.7 | 13.6 | 3.5 | 4.8 | 4.7 | 1.7 | 5.8 | 3.5 |
| **Canadian populations** | | | | | | | | | | |
| Alberta | 1.8 | 2.3 | 2.5 | 4.2 | 3.3 | 6.0 | 2.9 | 2.4 | 4.1 | 0.9 |
| British Columbia | 1.9 | 2.7 | 2.2 | 1.5 | 2.8 | 3.4 | 2.3 | 2.1 | 2.8 | 6.0 |
| Manitoba-English | 2.6 | 3.3 | 2.9 | 9.6 | 5.4 | 4.4 | 3.2 | 3.7 | 1.9 | 3.5 |
| Manitoba-French | 2.8 | 4.2 | 3.5 | 7.4 | 9.6 | 4.0 | 2.8 | 1.2 | 12.6 | 3.4 |
| New Brunswick-English | 1.5 | 2.3 | 2.2 | 18.5 | 8.8 | 3.5 | 3.2 | 2.2 | 3.8 | 13.9 |
| New Brunswick-French | 1.5 | 2.4 | 2.1 | 6.5 | 2.4 | 4.0 | 1.9 | 1.8 | 6.1 | 9.9 |
| Newfoundland | 1.9 | 2.8 | 2.3 | 14.1 | 3.0 | 3.3 | 2.7 | 3.3 | 1.9 | 2.7 |
| Nova Scotia | 1.9 | 2.8 | 2.5 | 9.3 | 5.9 | 3.3 | 1.9 | 2.0 | 3.7 | 4.3 |
| Ontario-English | 2.8 | 4.0 | 2.2 | 14.9 | 2.9 | 4.1 | 2.2 | 3.2 | 5.2 | 6.2 |
| Ontario-French | 2.2 | 3.1 | 2.9 | 10.8 | 8.7 | 3.4 | 2.5 | 2.5 | 2.6 | 5.5 |
| Quebec-English | 2.2 | 3.2 | 3.0 | 16.6 | 8.0 | 1.9 | 2.8 | 5.2 | 3.0 | 4.4 |
| Quebec-French | 2.2 | 2.8 | 2.4 | 16.3 | 4.0 | 2.9 | 2.7 | 4.8 | 4.8 | 11.9 |
| Saskatchewan-English | 2.2 | 2.8 | 2.4 | 11.4 | 7.0 | 2.8 | 3.2 | 4.5 | 4.0 | 7.7 |
| Saskatchewan-French | 3.4 | 4.6 | 5.5 | 11.8 | 7.1 | 5.3 | 1.7 | 3.1 | 16.7 | 5.3 |

SOURCE: Educational Testing Service, International Assessment of Educational Progress, unpublished tabulations, 1992.

## Table 17-1 Average ability scores on reading literacy assessment, by age, sex, and country: School year 1991–92

| Country | Age 9 | | | Age 14 | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Belgium (FR)[1] | 507 | 503 | 512 | 481 | 480 | 486 |
| Botswana | — | — | — | 330 | 327 | 333 |
| Canada (BC)[2] | 500 | 495 | 506 | 522 | 513 | 534 |
| Cyprus | 481 | 479 | 484 | 497 | 493 | 501 |
| Denmark | 475 | 463 | 489 | 525 | 523 | 527 |
| East Germany[3] | 499 | 490 | 509 | 526 | 523 | 530 |
| Finland[4] | 569 | 564 | 575 | 560 | 554 | 568 |
| France[5] | 531 | 530 | 533 | 549 | 553 | 549 |
| Greece[6] | 504 | 499 | 510 | 509 | 509 | 510 |
| Hong Kong[7] | 517 | 512 | 524 | 535 | 533 | 538 |
| Hungary[8] | 499 | 495 | 504 | 536 | 528 | 542 |
| Iceland[9] | 518 | 508 | 528 | 536 | 530 | 543 |
| Ireland[10] | 509 | 502 | 517 | 511 | 502 | 525 |
| Italy[11] | 529 | 525 | 537 | 515 | 511 | 520 |
| Netherlands | 485 | 483 | 488 | 514 | 511 | 520 |
| New Zealand | 528 | 519 | 539 | 545 | 544 | 549 |
| Norway[12] | 524 | 517 | 533 | 516 | 516 | 520 |
| Philippines[13] | — | — | — | 430 | 427 | 432 |
| Portugal | 478 | 474 | 483 | 523 | 528 | 520 |
| Singapore | 515 | 510 | 521 | 534 | 534 | 534 |
| Slovenia | 498 | 491 | 506 | 532 | 529 | 534 |
| Spain[14] | 504 | 500 | 508 | 490 | 488 | 492 |
| Sweden | 539 | 533 | 546 | 546 | 540 | 555 |
| Switzerland | 511 | 507 | 517 | 536 | 535 | 538 |
| Thailand[15] | — | — | — | 477 | 464 | 488 |
| Trinidad/Tobago | 451 | 443 | 460 | 479 | 466 | 492 |
| United States[16] | 547 | 543 | 552 | 535 | 530 | 543 |
| Venezuela[17] | 383 | 379 | 392 | 417 | 419 | 421 |
| West Germany[18] | 503 | 501 | 508 | 522 | 522 | 526 |
| Zimbabwe | — | — | — | 372 | 380 | 363 |

—Country did not participate at this age level.

[1] Schools in French-speaking Belgium only, students instructed in Flemish or German were excluded.

[2] Schools in British Columbia only. Students in Government Native Indian schools were excluded.

[3] Students in special schools for the handicapped and institutions for specially talented students were excluded.

[4] Swedish speaking, special education, and laboratory schools were excluded.

[5] Private schools were excluded (16 percent of 9-year-olds and 21 percent of 14-year-olds).

[6] For 14-year-olds, 1.4 percent in evening schools were excluded.

[7] International schools, ESF Foundation schools, schools not participating in Secondary School Places Allocation System (SSPA) and schools with class size of less than 20 were excluded.

[8] Very small schools in remote areas and ungraded schools were excluded.

[9] Schools where there were fewer than 5 students were excluded.

[10] Private schools and schools with fewer than 5 students were excluded.

[11] Non-government schools were excluded.

[12] Schools for Lapps were excluded.

[13] Schools in earthquake and insurgency areas (about 39 percent of the population) were excluded.

[14] Students from schools with fewer than 10 students in the defined grade and from schools where medium of instruction was not Castillian Spanish were excluded.

[15] Laboratory schools and schools controlled by the Department of Fine Arts and Culture were excluded.

[16] Students in eligible schools not capable of taking the test (4.9 percent of each age group) were excluded.

[17] Students attending private rural schools were excluded.

[18] Students in special schools for the handicapped and non-graded private schools were excluded.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-2 Average scores across narrative, expository, and documents domains for 9-year-olds on reading literacy assessment, by country: School year 1991–92

| Country | Average score | | | Percentile score, narrative domain | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Narrative | Expository | Documents | 1st | 5th | 10th | 90th | 95th | 99th |
| Belgium (FR)[1] | 510 | 505 | 506 | 293 | 361 | 385 | 612 | 643 | 695 |
| Canada (BC)[2] | 502 | 499 | 500 | 186 | 345 | 389 | 619 | 644 | 697 |
| Cyprus | 492 | 475 | 476 | 283 | 351 | 373 | 601 | 626 | 686 |
| Denmark | 463 | 467 | 496 | 186 | 186 | 299 | 592 | 628 | 682 |
| East Germany[3] | 482 | 493 | 522 | 219 | 324 | 361 | 590 | 626 | 686 |
| Finland[4] | 568 | 569 | 569 | 353 | 420 | 466 | 649 | 681 | 708 |
| France[5] | 532 | 533 | 527 | 335 | 381 | 411 | 640 | 672 | 701 |
| Greece | 514 | 511 | 488 | 303 | 367 | 400 | 622 | 647 | 699 |
| Hong Kong[6] | 494 | 503 | 554 | 273 | 350 | 383 | 601 | 618 | 677 |
| Hungary[7] | 496 | 493 | 509 | 299 | 362 | 390 | 588 | 617 | 661 |
| Iceland[8] | 518 | 517 | 519 | 297 | 361 | 390 | 627 | 647 | 700 |
| Indonesia[9] | 402 | 411 | 369 | 205 | 280 | 316 | 489 | 528 | 566 |
| Ireland[10] | 518 | 514 | 495 | 301 | 363 | 390 | 631 | 649 | 701 |
| Italy[11] | 533 | 538 | 517 | 303 | 379 | 411 | 627 | 650 | 701 |
| Netherlands | 494 | 480 | 481 | 311 | 359 | 382 | 591 | 625 | 688 |
| New Zealand | 534 | 531 | 521 | 299 | 365 | 403 | 647 | 679 | 707 |
| Norway[12] | 525 | 528 | 519 | 186 | 342 | 390 | 629 | 654 | 702 |
| Portugal | 483 | 480 | 471 | 300 | 356 | 386 | 587 | 617 | 670 |
| Singapore | 521 | 519 | 504 | 306 | 364 | 395 | 623 | 653 | 701 |
| Slovenia | 502 | 489 | 503 | 296 | 355 | 389 | 648 | 650 | 700 |
| Spain[13] | 497 | 505 | 509 | 291 | 357 | 389 | 597 | 641 | 687 |
| Sweden | 536 | 542 | 539 | 239 | 364 | 406 | 644 | 673 | 706 |
| Switzerland | 506 | 507 | 522 | 237 | 362 | 391 | 602 | 642 | 696 |
| Trinidad/Tobago | 455 | 458 | 440 | 232 | 312 | 343 | 567 | 605 | 676 |
| United States[14] | 553 | 538 | 550 | 330 | 389 | 420 | 655 | 685 | 708 |
| Venezuela[15] | 378 | 396 | 374 | 186 | 186 | 220 | 474 | 500 | 554 |
| West Germany[16] | 491 | 497 | 520 | 226 | 340 | 372 | 594 | 629 | 690 |

[1] Schools in French-speaking Belgium only, students instructed in Flemish or German were excluded.

[2] Schools in British Columbia only. Students in Government Native Indian schools were excluded.

[3] Students in special schools for the handicapped and institutions for specially talented students were excluded.

[4] Swedish speaking, special education, and laboratory schools were excluded.

[5] Private schools were excluded (16 percent ).

[6] International schools, ESF Foundation schools, schools not participating in Secondary School Places Allocation System (SSPA) and schools with class size of less than 20 were excluded.

[7] Very small schools in remote areas and ungraded schools were excluded.

[8] Schools where there were fewer than 5 students were excluded.

[9] Schools outside of Java, Riau (Sumatra) and East Nusa Tenggara were excluded (30 percent of target population).

[10] Private schools and schools with fewer than 5 students were excluded.

[11] Non-government schools were excluded.

[12] Schools for Lapps were excluded.

[13] Students from schools with fewer than 10 students in the defined grade and from schools where medium of instruction was not Castillian Spanish were excluded.

[14] Students in eligible schools not capable of taking the test (5 percent) were excluded.

[15] Students attending private rural schools were excluded.

[16] Students in special schools for the handicapped and non-graded private schools were excluded.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-3 Average scores across narrative, expository, and documents domains for 14-year-olds on reading literacy assessment, by country: School year 1991–92

| Country | Average score | | | Percentile score, expository domain | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Narrative | Expository | Documents | 1st | 5th | 10th | 90th | 95th | 99th |
| Belgium (FR)[1] | 484 | 477 | 483 | 242 | 319 | 360 | 572 | 605 | 685 |
| Botswana | 340 | 339 | 312 | 121 | 227 | 247 | 411 | 417 | 452 |
| Canada (BC)[2] | 526 | 516 | 522 | 290 | 362 | 394 | 635 | 676 | 750 |
| Cyprus | 516 | 492 | 482 | 282 | 340 | 378 | 601 | 638 | 705 |
| Denmark | 517 | 524 | 532 | 295 | 380 | 411 | 636 | 673 | 741 |
| East Germany[3] | 512 | 523 | 543 | 315 | 381 | 408 | 633 | 648 | 708 |
| Finland[4] | 559 | 541 | 580 | 354 | 421 | 453 | 628 | 641 | 699 |
| France[5] | 556 | 546 | 544 | 362 | 414 | 447 | 639 | 681 | 748 |
| Greece[6] | 526 | 508 | 493 | 322 | 376 | 401 | 602 | 640 | 711 |
| Hong Kong[7] | 509 | 540 | 557 | 343 | 407 | 434 | 621 | 642 | 718 |
| Hungary[8] | 530 | 536 | 542 | 326 | 389 | 420 | 640 | 680 | 748 |
| Iceland[9] | 550 | 548 | 509 | 316 | 385 | 413 | 660 | 686 | 748 |
| Ireland[10] | 510 | 505 | 518 | 282 | 356 | 384 | 630 | 643 | 725 |
| Italy[11] | 520 | 524 | 501 | 324 | 386 | 413 | 616 | 643 | 727 |
| Netherlands | 506 | 503 | 533 | 291 | 365 | 395 | 593 | 624 | 694 |
| New Zealand | 547 | 535 | 552 | 290 | 363 | 410 | 660 | 692 | 757 |
| Norway[12] | 515 | 520 | 512 | 313 | 386 | 413 | 609 | 642 | 713 |
| Philippines[13] | 421 | 439 | 430 | 272 | 321 | 342 | 530 | 571 | 662 |
| Portugal | 523 | 523 | 523 | 341 | 411 | 429 | 606 | 636 | 698 |
| Singapore | 530 | 539 | 533 | 367 | 410 | 434 | 629 | 666 | 735 |
| Slovenia | 534 | 525 | 537 | 360 | 410 | 441 | 607 | 643 | 700 |
| Spain[14] | 500 | 495 | 475 | 308 | 364 | 391 | 581 | 613 | 688 |
| Sweden | 556 | 533 | 550 | 324 | 384 | 420 | 637 | 677 | 749 |
| Switzerland | 534 | 525 | 549 | 307 | 381 | 412 | 632 | 654 | 722 |
| Thailand[15] | 468 | 486 | 478 | 239 | 324 | 363 | 573 | 599 | 662 |
| Trinidad/Tobago | 482 | 485 | 472 | 255 | 330 | 358 | 600 | 636 | 729 |
| United States[16] | 539 | 539 | 528 | 324 | 381 | 410 | 673 | 705 | 764 |
| Venezuela[17] | 407 | 433 | 412 | 220 | 290 | 330 | 526 | 556 | 629 |
| West Germany[18] | 514 | 521 | 532 | 323 | 381 | 411 | 622 | 667 | 736 |
| Zimbabwe | 367 | 374 | 373 | 139 | 272 | 291 | 453 | 483 | 551 |

[1] Schools in French-speaking Belgium only, students instructed in Flemish or German were excluded.

[2] Schools in British Columbia only. Students in Government Native Indian schools were excluded.

[3] Students in special schools for the handicapped and institutions for specially talented students were excluded.

[4] Swedish speaking, special education, and laboratory schools were excluded.

[5] Private schools were excluded (21 percent).

[6] Students in evening schools were excluded (1 percent).

[7] International schools, ESF Foundation schools, schools not participating in Secondary School Places Allocation System (SSPA) and schools with class size of less than 20 were excluded.

[8] Very small schools in remote areas and ungraded schools were excluded.

[9] Schools where there were fewer than 5 students were excluded.

[10] Private schools and schools with fewer than 5 students were excluded.

[11] Non-government schools were excluded.

[12] Schools for Lapps were excluded.

[13] Schools in earthquake and insurgency areas (about 39 percent of the population) were excluded.

[14] Students from schools with fewer than 10 students in the defined grade and from schools where medium of instruction was not Castillian Spanish were excluded.

[15] Laboratory schools and schools controlled by the Department of Fine Arts and Culture were excluded.

[16] Students in eligible schools not capable of taking the test (5 percent) were excluded.

[17] Students attending private rural schools were excluded.

[18] Students in special schools for the handicapped and non-graded private schools were excluded.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-4 Average reading achievement score for students speaking a different language at home and for students speaking the school language, by country: School year 1991–92

| Country | Age 9 | | | | Age 14 | | | |
|---|---|---|---|---|---|---|---|---|
| | Non-school language | | School language | | Non-school language | | School language | |
| | Percent of students | Average score | Percent of students | Average score | Percent of students | Average score | Percent of students | Average score |
| Belgium (FR)[1] | 11.4 | 481 | 88.6 | 512 | 8.7 | 435 | 91.3 | 491 |
| Botswana | — | — | — | — | 61.4 | 328 | 38.6 | 334 |
| Canada (BC)[2] | 11.0 | 448 | 89.0 | 502 | 7.6 | 506 | 92.4 | 524 |
| Cyprus | 3.7 | 476 | 96.3 | 482 | 0.4 | 437 | 99.6 | 497 |
| Denmark | 4.7 | 441 | 95.3 | 480 | 2.5 | 470 | 97.5 | 527 |
| East Germany[3] | 1.5 | 532 | 98.5 | 569 | 0.6 | 533 | 99.4 | 562 |
| Finland[4] | 9.1 | 491 | 90.9 | 536 | 3.9 | 516 | 96.1 | 552 |
| France[5] | 1.7 | 472 | 98.3 | 500 | 0.8 | 521 | 99.2 | 527 |
| Greece[6] | 10.5 | 461 | 89.5 | 509 | 8.4 | 455 | 91.6 | 530 |
| Hong Kong[7] | 6.4 | 472 | 93.6 | 508 | 2.8 | 487 | 97.2 | 510 |
| Hungary[8] | 12.6 | 488 | 87.4 | 522 | 4.1 | 495 | 95.9 | 537 |
| Iceland[9] | 2.8 | 468 | 97.2 | 501 | 0.6 | 493 | 99.4 | 536 |
| Indonesia[10] | 3.5 | 487 | 96.5 | 519 | 0.4 | 508 | 99.6 | 536 |
| Ireland[11] | 72.5 | 394 | 27.5 | 403 | — | — | — | — |
| Italy[12] | 3.0 | 495 | 97.0 | 510 | 1.2 | 482 | 98.8 | 513 |
| Netherlands | 26.9 | 513 | 73.1 | 537 | 26.1 | 488 | 73.9 | 525 |
| New Zealand | 12.5 | 459 | 87.5 | 489 | 9.1 | 489 | 90.9 | 518 |
| Norway[13] | 8.4 | 465 | 91.6 | 535 | 5.6 | 470 | 94.4 | 551 |
| Philippines[14] | 4.1 | 471 | 95.9 | 527 | 1.9 | 473 | 98.1 | 519 |
| Portugal | — | — | — | — | 89.6 | 428 | 10.4 | 449 |
| Singapore | 3.4 | 469 | 96.6 | 479 | 1.6 | 504 | 98.4 | 524 |
| Slovenia | 72.5 | 505 | 27.5 | 543 | 74.1 | 523 | 25.9 | 566 |
| Spain[15] | 11.5 | 469 | 88.5 | 502 | 6.3 | 506 | 93.7 | 534 |
| Sweden | 13.4 | 499 | 86.6 | 505 | 11.4 | 481 | 88.6 | 491 |
| Switzerland | 9.2 | 486 | 90.8 | 544 | 5.1 | 501 | 94.9 | 549 |
| Thailand[16] | 20.7 | 476 | 79.3 | 521 | 15.0 | 497 | 85.0 | 544 |
| Trinidad/Tobago | — | — | — | — | 38.7 | 476 | 61.3 | 479 |
| United States[17] | 14.7 | 439 | 85.3 | 456 | 16.1 | 456 | 83.9 | 485 |
| West Germany[18] | 3.5 | 520 | 96.5 | 549 | 3.8 | 478 | 96.2 | 539 |
| Venezuela[19] | 17.8 | 383 | 82.2 | 388 | 5.3 | 394 | 94.7 | 421 |
| Zimbabwe | — | — | — | — | 83.2 | 371 | 16.8 | 385 |

—Country did not participate at this age level.

[1] Schools in French-speaking Belgium only, students instructed in Flemish or German were excluded.

[2] Schools in British Columbia only. Students in Government Native Indian schools were excluded.

[3] Students in special schools for the handicapped and institutions for specially talented students were excluded.

[4] Swedish speaking, special education, and laboratory schools were excluded.

[5] Private schools were excluded (16 percent of 9-year-olds and 21 percent of 14-year-olds).

[6] For 14-year-olds, 1.4 percent in evening schools were excluded.

[7] International schools, ESF Foundation schools, schools not participating in Secondary School Places Allocation System (SSPA) and schools with class size of less than 20 were excluded.

[8] Very small schools in remote areas and ungraded schools were excluded.

[9] Schools where there were fewer than 5 students were excluded.

[10] Schools outside of Java, Riau (Sumatra) and East Nusa Tenggara were excluded (30 percent of target population).

[11] Private schools and schools with fewer than 5 students were excluded.

[12] Non-government schools were excluded.

[13] Schools for Lapps were excluded.

[14] Schools in earthquake and insurgency areas (about 39 percent of the population) were excluded.

[15] Students from schools with fewer than 10 students in the defined grade and from schools where medium of instruction was not Castillian Spanish were excluded.

[16] Laboratory schools and schools controlled by the Department of Fine Arts and Culture were excluded.

[17] Students in eligible schools not capable of taking the test (5 percent of each age group) were excluded.

[18] Students attending private rural schools were excluded.

[19] Students in special schools for the handicapped and non-graded private schools were excluded.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-5 Standard errors for estimated averages in table 17-1

| Country | Age 9 | | | Age 14 | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Belgium (FR) | 3.2 | 4.5 | 4.5 | 4.9 | 5.2 | 5.4 |
| Botswana | — | — | — | 2.0 | 3.2 | 2.8 |
| Canada (BC) | 3.0 | 5.4 | 5.4 | 3.0 | 3.4 | 3.3 |
| Cyprus | 2.3 | 3.2 | 3.2 | 2.2 | 3.0 | 3.2 |
| Denmark | 3.5 | 5.5 | 4.9 | 2.1 | 2.9 | 2.8 |
| East Germany | 4.3 | 6.3 | 6.1 | 3.5 | 4.0 | 4.0 |
| Finland | 3.4 | 4.5 | 4.5 | 2.5 | 3.7 | 3.5 |
| France | 4.0 | 5.7 | 5.6 | 4.3 | 5.0 | 4.2 |
| Greece | 3.7 | 4.4 | 4.2 | 2.9 | 3.3 | 3.1 |
| Hong Kong | 3.9 | 3.7 | 3.6 | 3.7 | 4.0 | 3.8 |
| Hungary | 3.1 | 3.8 | 3.6 | 3.3 | 3.8 | 3.7 |
| Iceland* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ireland | 3.6 | 5.2 | 5.0 | 5.2 | 5.1 | 5.0 |
| Italy | 4.3 | 5.2 | 5.1 | 3.4 | 4.0 | 3.9 |
| Netherlands | 3.6 | 5.4 | 5.2 | 4.9 | 4.9 | 5.2 |
| New Zealand | 3.3 | 4.1 | 4.0 | 5.6 | 5.9 | 5.5 |
| Norway | 2.6 | 4.6 | 4.0 | 2.3 | 3.2 | 3.1 |
| Philippines | — | — | — | 3.9 | 3.4 | 2.6 |
| Portugal | 3.6 | 4.5 | 4.5 | 3.1 | 3.4 | 3.2 |
| Singapore | 1.0 | 1.3 | 1.3 | 1.1 | 1.6 | 1.5 |
| Slovenia | 2.6 | 3.3 | 3.4 | 2.3 | 3.3 | 3.3 |
| Spain | 2.5 | 3.4 | 3.3 | 2.5 | 3.3 | 3.1 |
| Sweden | 2.8 | 4.4 | 4.3 | 2.5 | 3.3 | 3.2 |
| Switzerland | 2.7 | 4.2 | 4.2 | 3.2 | 3.5 | 3.3 |
| Thailand | — | — | — | 6.2 | 7.3 | 5.5 |
| Trinidad/Tobago | 3.4 | 4.3 | 4.1 | 1.7 | 2.6 | 2.2 |
| United States | 2.8 | 3.6 | 3.4 | 4.8 | 6.3 | 5.9 |
| Venezuela | 3.4 | 4.2 | 3.9 | 3.1 | 4.0 | 3.5 |
| West Germany | 3.0 | 3.9 | 3.8 | 4.4 | 4.4 | 4.4 |
| Zimbabwe | — | — | — | 3.8 | 4.4 | 4.1 |

—Country did not participate at this age level.

*Iceland tested all students, therefore no standard errors were calculated.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-6 Standard errors for estimated averages in tables 17-2 and 17-3

| Country | Age 9 | | | Age 14 | | |
|---|---|---|---|---|---|---|
| | Narrative | Expository | Documents | Narrative | Expository | Documents |
| Belgium (FR) | 3.3 | 2.8 | 3.5 | 5.1 | 4.8 | 4.7 |
| Botswana | — | — | — | 1.6 | 1.9 | 2.4 |
| Canada (BC) | 3.5 | 2.7 | 2.8 | 3.1 | 3.1 | 2.7 |
| Cyprus | 2.4 | 2.3 | 2.1 | 2.2 | 2.4 | 2.0 |
| Denmark | 3.4 | 3.5 | 3.6 | 2.0 | 2.2 | 2.1 |
| Finland | 3.0 | 3.1 | 4.0 | 2.8 | 2.2 | 2.5 |
| France | 4.1 | 4.1 | 3.9 | 4.2 | 4.3 | 4.2 |
| East Germany | 4.2 | 3.6 | 5.0 | 3.9 | 3.5 | 2.9 |
| Greece | 3.8 | 3.6 | 3.8 | 2.9 | 3.1 | 2.6 |
| Hong Kong | 4.1 | 3.4 | 4.2 | 3.7 | 3.8 | 3.8 |
| Hungary | 2.9 | 3.1 | 3.5 | 3.1 | 3.6 | 3.2 |
| Iceland* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Indonesia | 2.8 | 3.2 | 3.0 | — | — | — |
| Ireland | 3.7 | 3.2 | 3.8 | 5.3 | 5.3 | 4.9 |
| Italy | 4.0 | 4.0 | 4.9 | 3.6 | 3.2 | 3.3 |
| Netherlands | 3.3 | 3.4 | 3.9 | 4.8 | 4.7 | 5.3 |
| New Zealand | 3.5 | 3.1 | 3.3 | 5.7 | 5.7 | 5.3 |
| Norway | 2.8 | 2.3 | 2.8 | 2.1 | 2.4 | 2.4 |
| Philippines | — | — | — | 3.6 | 4.1 | 3.9 |
| Portugal | 3.3 | 3.0 | 4.5 | 2.5 | 3.4 | 3.4 |
| Singapore | 1.1 | 1.0 | 1.0 | 1.1 | 1.2 | 1.1 |
| Slovenia | 2.7 | 2.5 | 2.5 | 2.6 | 2.2 | 2.2 |
| Spain | 2.4 | 2.3 | 2.7 | 3.0 | 2.6 | 2.0 |
| Sweden | 2.6 | 2.7 | 3.2 | 2.6 | 2.4 | 2.4 |
| Switzerland | 2.6 | 2.7 | 2.8 | 3.4 | 3.2 | 3.0 |
| Thailand | — | — | — | 6.6 | 5.9 | 6.2 |
| Trinidad/Tobago | 3.6 | 3.4 | 3.3 | 1.7 | 1.8 | 1.7 |
| United States | 3.1 | 2.6 | 2.7 | 4.9 | 5.6 | 4.0 |
| Venezuela | 3.2 | 3.3 | 3.7 | 2.9 | 3.3 | 3.0 |
| West Germany | 2.8 | 2.9 | 3.2 | 4.9 | 4.5 | 3.9 |
| Zimbabwe | — | — | — | 3.3 | 3.6 | 4.6 |

—Country did not participate at this age level.

*Iceland tested all students, therefore no standard errors were calculated.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

## Table 17-7 Standard errors for estimated averages in table 17-4

| Country | Age 9 | | Age 14 | |
|---|---|---|---|---|
| | Non-school language | School language | Non-school language | School language |
| | Average score | Average score | Average score | Average score |
| Belgium (FR) | 9.5 | 3.3 | 13.3 | 3.9 |
| Botswana | — | — | 2.7 | 3.4 |
| Canada (BC) | 10.4 | 4.1 | 8.3 | 2.4 |
| Cyprus | 13.6 | 2.3 | 32.1 | 2.2 |
| Denmark | 15.9 | 3.8 | 12.9 | 2.0 |
| East Germany | 28.4 | 4.4 | 32.1 | 2.8 |
| Finland | 27.6 | 3.2 | 38.1 | 2.6 |
| France | 12.2 | 4.2 | 16.1 | 3.3 |
| Greece | 12.6 | 3.1 | 13.4 | 2.3 |
| Hong Kong | 7.3 | 2.8 | 14.9 | 2.8 |
| Hungary | 14.3 | 2.7 | 35.9 | 2.7 |
| Iceland* | 0.0 | 0.0 | 0.0 | 0.0 |
| Indonesia | 3.0 | 5.1 | — | — |
| Ireland | 23.2 | 3.7 | 44.7 | 3.6 |
| Italy | 6.9 | 4.1 | 5.1 | 3.3 |
| Netherlands | 11.0 | 4.0 | 12.6 | 3.7 |
| New Zealand | 9.6 | 3.0 | 15.9 | 4.1 |
| Norway | 16.7 | 3.1 | 19.5 | 2.2 |
| Philippines | — | — | 2.1 | 8.1 |
| Portugal | 19.1 | 3.2 | 18.6 | 2.4 |
| Singapore | 1.1 | 1.9 | 1.2 | 2.3 |
| Slovenia | 6.8 | 2.5 | 8.5 | 2.3 |
| Spain | 6.2 | 2.5 | 6.8 | 2.4 |
| Sweden | 10.8 | 3.2 | 10.8 | 2.3 |
| Switzerland | 6.3 | 3.2 | 6.7 | 2.5 |
| Thailand | — | — | 6.8 | 6.0 |
| Trinidad/Tobago | 7.9 | 3.2 | 3.9 | 1.9 |
| United States | 12.3 | 2.5 | 21.0 | 4.4 |
| Venezuela | 6.3 | 3.2 | 11.7 | 2.6 |
| West Germany | 8.1 | 2.9 | 10.7 | 3.2 |
| Zimbabwe | — | — | 3.1 | 9.3 |

—Country did not participate at this age level.

*Iceland tested all students, therefore no standard errors were calculated.

SOURCE: International Association for the Evaluation of Educational Achievement, Study of Reading Literacy, *How in the world do students read?*, 1992.

### Table 18-1 Number of high school graduates, percentage of all and minority college-bound seniors taking the SAT, SAT mean scores, standard deviations, and percentage scoring over 600: 1972–1992

| Year | Number of high school graduates[1] | SAT test-takers |  |  | Total mean | Verbal |  |  | Mathematics |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | Number[1] | As a percent of high school graduates[2] | Percent minority |  | Mean | Standard deviation | Percent scoring 600 or higher | Mean | Standard deviation | Percent scoring 600 or higher |
|  | (In thousands) |  |  |  |  |  |  |  |  |  |  |
| 1972 | 3,001 | 1,023 | 34.1 | — | 937 | 453 | 111 | 11 | 484 | 115 | 17 |
| 1973 | 3,036 | 1,015 | 33.4 | — | 926 | 445 | 108 | 10 | 481 | 113 | 16 |
| 1974 | 3,073 | 985 | 32.1 | — | 924 | 444 | 110 | 10 | 480 | 116 | 17 |
| 1975 | 3,133 | 996 | 31.8 | — | 906 | 434 | 109 | 8 | 472 | 115 | 15 |
| 1976 | 3,148 | 1,000 | 31.8 | 15.0 | 903 | 431 | 110 | 8 | 472 | 120 | 17 |
| 1977 | 3,155 | 979 | 31.0 | 16.1 | 899 | 429 | 110 | 8 | 470 | 119 | 16 |
| 1978 | 3,127 | 989 | 31.6 | 17.0 | 897 | 429 | 110 | 8 | 468 | 118 | 15 |
| 1979 | 3,117 | 992 | 31.8 | 17.1 | 894 | 427 | 110 | 7 | 467 | 117 | 15 |
| 1980 | 3,043 | 992 | 32.6 | 17.9 | 890 | 424 | 110 | 7 | 466 | 117 | 15 |
| 1981 | 3,020 | 994 | 32.9 | 18.1 | 890 | 424 | 110 | 7 | 466 | 117 | 14 |
| 1982 | 2,995 | 989 | 33.0 | 18.3 | 893 | 426 | 110 | 7 | 467 | 117 | 15 |
| 1983 | 2,888 | 963 | 33.3 | 18.9 | 893 | 425 | 109 | 7 | 468 | 119 | 16 |
| 1984 | 2,767 | 965 | 34.9 | 19.7 | 897 | 426 | 110 | 7 | 471 | 119 | 17 |
| 1985 | 2,677 | 977 | 36.5 | 20.0 | 906 | 431 | 111 | 7 | 475 | 119 | 17 |
| 1986 | 2,643 | 1,001 | 37.9 | — | 906 | 431 | 110 | 8 | 475 | 121 | 17 |
| 1987 | 2,694 | 1,080 | 40.1 | 21.8 | 906 | 430 | 111 | 8 | 476 | 122 | 18 |
| 1988 | 2,773 | 1,134 | 40.9 | 23.0 | 904 | 428 | 109 | 7 | 476 | 120 | 17 |
| 1989[3] | 2,727 | 1,088 | 39.9 | 25.3 | 903 | 427 | 111 | 8 | 476 | 121 | 18 |
| 1990[3] | 2,587 | 1,026 | 39.7 | 26.6 | 900 | 424 | 111 | 7 | 476 | 123 | 18 |
| 1991[3] | 2,511 | 1,033 | 41.1 | 28.0 | 896 | 422 | 111 | 7 | 474 | 123 | 17 |
| 1992 | [4]2,485 | 1,034 | [4]41.6 | 28.5 | 899 | 423 | 112 | 7 | 476 | 123 | 18 |

— Not available.

[1] Includes public and private schools.

[2] The ratio of the number of individuals taking the SAT in the year to the number of high school graduates in the same year expressed as a percentage.

[3] Data for percentage taking the SAT have been revised from previously published figures.

[4] Percentage of public high school graduates taking the SAT is based on state estimates of public high school graduates.

NOTE: Background information needed for specific identification of college-bound seniors was not collected before 1972 for the SAT. College-bound seniors are those students from each high school graduating class who participate in the College Board Admission Testing Program. It does not include all first-year college students, nor does it include all high school seniors.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors, 1972–1992* (Copyright© 1992 by College Entrance Examination Board. All rights reserved.); U.S. Department of Education, National Center for Education Sttistics, *Digest of Education Statistics, 1992*, table 95.

## Table 18-2 Distribution of SAT college-bound seniors by race/ethnicity and sex: 1972–1992

| Year | Race/ethnicity | | | | | | | | Sex | |
|---|---|---|---|---|---|---|---|---|---|---|
| | White | Black | Mexican American | Puerto Rician | Other Hispanic | Asian American | American Indian | Other | Male | Female |
| 1972 | — | — | — | — | — | — | — | — | 51.2 | 48.8 |
| 1973 | — | — | — | — | — | — | — | — | 50.8 | 49.2 |
| 1974 | — | — | — | — | — | — | — | — | 50.0 | 50.0 |
| 1975 | — | — | — | — | — | — | — | — | 49.9 | 50.1 |
| 1976 | 85.0 | 8.2 | 1.0 | 0.7 | — | 2.2 | 0.3 | 2.0 | 49.5 | 50.5 |
| 1977 | 83.9 | 8.8 | 1.7 | 0.8 | — | 2.4 | 0.4 | 2.1 | 48.9 | 51.1 |
| 1978 | 83.0 | 9.0 | 1.7 | 1.0 | — | 2.6 | 0.4 | 2.3 | 48.4 | 51.6 |
| 1979 | 82.9 | 8.9 | 1.6 | 1.0 | — | 2.8 | 0.4 | 2.4 | 48.3 | 51.7 |
| 1980 | 82.1 | 9.1 | 1.7 | 1.1 | — | 3.2 | 0.5 | 2.3 | 48.3 | 51.7 |
| 1981 | 81.9 | 9.0 | 1.7 | 1.1 | — | 3.4 | 0.6 | 2.2 | 48.1 | 51.9 |
| 1982 | 81.7 | 8.9 | 1.8 | 1.2 | — | 3.8 | 0.5 | 2.2 | 48.2 | 51.8 |
| 1983 | 81.1 | 8.8 | 1.9 | 1.2 | — | 4.2 | 0.5 | 2.2 | 48.3 | 51.7 |
| 1984 | 80.3 | 9.1 | 2.0 | 1.3 | — | 4.5 | 0.5 | 2.3 | 48.2 | 51.8 |
| 1985 | 80.0 | 8.9 | 2.2 | 1.2 | — | 4.8 | 0.5 | 2.4 | 48.3 | 51.7 |
| 1986 | — | — | — | — | — | — | — | — | 48.1 | 51.9 |
| 1987 | 78.2 | 8.7 | 2.1 | 1.0 | 1.9 | 5.8 | 1.0 | 1.2 | 48.2 | 51.8 |
| 1988 | 77.0 | 9.2 | 2.2 | 1.1 | 1.9 | 6.1 | 1.2 | 1.3 | 48.0 | 52.0 |
| 1989 | 74.7 | 9.6 | 2.5 | 1.1 | 2.1 | 6.8 | 1.8 | 1.3 | 47.9 | 52.1 |
| 1990 | 73.4 | 10.0 | 2.8 | 1.2 | 2.5 | 7.6 | 1.1 | 1.5 | 47.8 | 52.2 |
| 1991 | 72.0 | 10.5 | 3.0 | 1.3 | 2.7 | 8.0 | 0.8 | 1.7 | 47.8 | 52.2 |
| 1992 | 71.5 | 10.4 | 3.2 | 1.3 | 2.8 | 8.2 | 0.8 | 1.9 | 47.6 | 52.4 |

— Not available.

Note: The first year for which SAT scores by race/ethnic group are available is 1976.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright© 1992 by College Entrance Examination Board. All rights reserved.).

## Table 18-3 SAT mean mathematics score of college-bound seniors, by race/ethnicity and sex: 1972–1992

| Year | All | Race/ethnicity | | | | | | | | Sex | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | White | Black | Mexican American | Puerto Rician | Other Hispanic | Asian American | American Indian | Other | Male | Female |
| 1972 | — | — | — | — | — | — | — | — | — | 505 | 461 |
| 1973 | — | — | — | — | — | — | — | — | — | 502 | 460 |
| 1974 | — | — | — | — | — | — | — | — | — | 501 | 459 |
| 1975 | — | — | — | — | — | — | — | — | — | 495 | 449 |
| 1976 | 472 | 493 | 354 | 410 | 401 | — | 518 | 420 | 458 | 497 | 446 |
| 1977 | 470 | 489 | 357 | 408 | 397 | — | 514 | 421 | 457 | 497 | 445 |
| 1978 | 468 | 485 | 354 | 402 | 388 | — | 510 | 419 | 450 | 494 | 444 |
| 1979 | 467 | 483 | 358 | 410 | 388 | — | 511 | 421 | 447 | 493 | 443 |
| 1980 | 466 | 482 | 360 | 413 | 394 | — | 509 | 426 | 449 | 491 | 443 |
| 1981 | 466 | 483 | 362 | 415 | 398 | — | 513 | 425 | 447 | 492 | 443 |
| 1982 | 467 | 483 | 366 | 416 | 403 | — | 513 | 424 | 449 | 493 | 443 |
| 1983 | 468 | 484 | 369 | 417 | 403 | — | 514 | 425 | 446 | 493 | 445 |
| 1984 | 471 | 487 | 373 | 420 | 405 | — | 519 | 427 | 450 | 495 | 449 |
| 1985 | 475 | 490 | 376 | 426 | 409 | — | 518 | 428 | 448 | 499 | 452 |
| 1986 | 475 | — | — | — | — | — | — | — | — | 501 | 451 |
| 1987 | 476 | 489 | 377 | 424 | 400 | 432 | 521 | 432 | 455 | 500 | 453 |
| 1988 | 476 | 490 | 384 | 428 | 402 | 433 | 522 | 435 | 460 | 498 | 455 |
| 1989 | 476 | 491 | 386 | 430 | 406 | 436 | 525 | 428 | 467 | 500 | 454 |
| 1990 | 476 | 491 | 385 | 429 | 405 | 434 | 528 | 437 | 467 | 499 | 455 |
| 1991 | 474 | 489 | 385 | 427 | 406 | 431 | 530 | 437 | 466 | 497 | 453 |
| 1992 | 476 | 491 | 385 | 425 | 406 | 433 | 532 | 442 | 473 | 499 | 456 |

— Not available.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright© 1992 by College Entrance Examination Board. All rights reserved.).

## Table 18-4 Self-reported class rank distribution of SAT college-bound seniors: 1972–1992

| Year | Top tenth | Second tenth | Second fifth | Third fifth | Fourth fifth | Lowest fifth |
|---|---|---|---|---|---|---|
| 1972 | 24.0 | 24.0 | 27.0 | 21.0 | 4.0 | 1.0 |
| 1973 | 23.0 | 24.0 | 27.0 | 22.0 | 3.0 | 0.0 |
| 1974 | 22.0 | 26.0 | 28.0 | 21.0 | 2.0 | 0.0 |
| 1975 | 22.0 | 26.0 | 29.0 | 21.0 | 2.0 | 0.0 |
| 1976 | 22.7 | 25.2 | 28.2 | 21.9 | 1.7 | 0.3 |
| 1977 | 22.8 | 23.4 | 26.9 | 24.0 | 2.5 | 0.4 |
| 1978 | 22.1 | 22.6 | 26.8 | 25.2 | 2.8 | 0.5 |
| 1979 | 21.8 | 22.3 | 26.8 | 25.7 | 2.9 | 0.5 |
| 1980 | 21.6 | 22.2 | 26.8 | 25.9 | 3.0 | 0.5 |
| 1981 | 21.4 | 21.9 | 26.8 | 26.3 | 3.1 | 0.5 |
| 1982 | 21.5 | 21.7 | 26.9 | 26.3 | 3.1 | 0.5 |
| 1983 | 21.8 | 21.7 | 26.4 | 26.3 | 3.2 | 0.5 |
| 1984 | 21.4 | 21.0 | 26.2 | 27.2 | 3.5 | 0.6 |
| 1985 | 21.1 | 20.7 | 26.2 | 27.8 | 3.6 | 0.6 |
| 1986 | 20.7 | 21.4 | 27.8 | 25.4 | 4.1 | 0.7 |
| 1987 | 20.7 | 21.9 | 28.5 | 24.3 | 3.9 | 0.7 |
| 1988 | 20.6 | 21.6 | 28.4 | 24.7 | 4.1 | 0.7 |
| 1989 | 20.8 | 21.7 | 28.3 | 24.5 | 4.0 | 0.7 |
| 1990 | 21.0 | 21.7 | 28.1 | 24.5 | 4.1 | 0.7 |
| 1991 | 20.7 | 21.5 | 27.9 | 24.9 | 4.2 | 0.8 |
| 1992 | 21.1 | 21.8 | 27.6 | 24.5 | 4.2 | 0.8 |

NOTE: Data for years 1972–1975 reported as integers by the College Board.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright©1992 by College Entrance Examination Board. All rights reserved.).

## Table 18-5 SAT mean verbal scores, by self-reported class rank distribution of SAT college-bound seniors: 1972–1992

| Year | Top tenth | Second tenth | Second fifth | Third fifth | Fourth fifth | Lowest fifth |
|---|---|---|---|---|---|---|
| 1972 | — | — | — | — | — | — |
| 1973 | — | — | — | — | — | — |
| 1974 | — | — | — | — | — | |
| 1975 | — | — | — | — | — | — |
| 1976 | 524 | 456 | 415 | 371 | 348 | 335 |
| 1977 | 518 | 452 | 415 | 372 | 347 | 339 |
| 1978 | 515 | 450 | 414 | 372 | 349 | 339 |
| 1079 | 514 | 448 | 413 | 371 | 347 | 337 |
| 1980 | 510 | 446 | 411 | 370 | 346 | 339 |
| 1981 | 511 | 447 | 412 | 371 | 348 | 339 |
| 1982 | 511 | 449 | 415 | 374 | 349 | 343 |
| 1983 | 508 | 447 | 414 | 374 | 351 | 343 |
| 1984 | 511 | 450 | 417 | 377 | 353 | 341 |
| 1985 | 516 | 455 | 421 | 381 | 357 | 346 |
| 1986 | 514 | 454 | 419 | 381 | 360 | 352 |
| 1987 | 518 | 456 | 418 | 380 | 358 | 353 |
| 1988 | 515 | 454 | 417 | 379 | 358 | 352 |
| 1989 | 515 | 453 | 416 | 376 | 354 | 346 |
| 1990 | 512 | 449 | 412 | 373 | 351 | 342 |
| 1991 | 512 | 448 | 411 | 372 | 350 | 340 |
| 1992 | 512 | 448 | 412 | 373 | 350 | 338 |

— Not available.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright©1992 by College Entrance Examination Board. All rights reserved.).

## Table 18-6 SAT mean mathematics scores, by self-reported class rank distribution of SAT college-bound seniors: 1972–1992

| Year | Top tenth | Second tenth | Second fifth | Third fifth | Fourth fifth | Lowest fifth |
|---|---|---|---|---|---|---|
| 1972 | — | — | — | — | — | — |
| 1973 | — | — | — | — | — | — |
| 1974 | — | — | — | — | — | |
| 1975 | — | — | — | — | — | — |
| 1976 | 580 | 500 | 453 | 400 | 373 | 359 |
| 1977 | 574 | 499 | 453 | 401 | 374 | 364 |
| 1978 | 570 | 494 | 451 | 400 | 374 | 364 |
| 1979 | 568 | 494 | 451 | 400 | 372 | 364 |
| 1980 | 568 | 494 | 451 | 401 | 373 | 366 |
| 1981 | 567 | 496 | 453 | 402 | 374 | 368 |
| 1982 | 568 | 497 | 454 | 404 | 385 | 368 |
| 1983 | 570 | 498 | 455 | 403 | 375 | 369 |
| 1984 | 575 | 503 | 459 | 406 | 377 | 365 |
| 1985 | 577 | 508 | 463 | 411 | 380 | 369 |
| 1986 | 579 | 507 | 460 | 410 | 383 | 376 |
| 1987 | 585 | 511 | 461 | 409 | 380 | 374 |
| 1988 | 585 | 511 | 463 | 411 | 382 | 373 |
| 1989 | 585 | 512 | 463 | 410 | 381 | 373 |
| 1990 | 585 | 512 | 463 | 410 | 381 | 370 |
| 1991 | 584 | 511 | 462 | 409 | 379 | 368 |
| 1992 | 585 | 511 | 464 | 411 | 379 | 363 |

— Not available.

SOURCE: College Entrance Examination Board. *National Report: College Bound Seniors*, 1972–1992 (Copyright© 1992 by College Entrance Examination Board. All rights reserved.).

## Table 18-7 Average SAT verbal and mathematics scores of college-bound seniors, by parents' highest level of education: 1987–1992

| Parents' highest level of eduction | Year | Percent of students | Average verbal score | Average math score |
|---|---|---|---|---|
| No high school diploma | 1987 | 4 | 349 | 407 |
| | 1988 | 4 | 347 | 410 |
| | 1989 | 4 | 345 | 412 |
| | 1990 | 5 | 342 | 412 |
| | 1991 | 5 | 339 | 409 |
| | 1992 | 5 | 338 | 409 |
| High school diploma | 1987 | 38 | 404 | 446 |
| | 1988 | 37 | 402 | 446 |
| | 1989 | 37 | 400 | 447 |
| | 1990 | 38 | 397 | 445 |
| | 1991 | 38 | 395 | 443 |
| | 1992 | 37 | 394 | 443 |
| Associate's degree | 1987 | 7 | 416 | 458 |
| | 1988 | 7 | 414 | 457 |
| | 1989 | 7 | 412 | 458 |
| | 1990 | 7 | 409 | 457 |
| | 1991 | 8 | 407 | 454 |
| | 1992 | 8 | 408 | 456 |
| Bachelor's degree | 1987 | 27 | 448 | 496 |
| | 1988 | 27 | 446 | 496 |
| | 1989 | 27 | 446 | 497 |
| | 1990 | 27 | 443 | 498 |
| | 1991 | 27 | 442 | 497 |
| | 1992 | 27 | 444 | 499 |
| Graduate degree | 1987 | 24 | 478 | 523 |
| | 1988 | 24 | 476 | 524 |
| | 1989 | 24 | 477 | 526 |
| | 1990 | 24 | 476 | 529 |
| | 1991 | 23 | 476 | 528 |
| | 1992 | 24 | 476 | 530 |

NOTE: Percent of students represents the percentage of all students from each subgroup.

SOURCE: College Entrance Examination Board, *National Report: College Bound Seniors*, 1972–1992 (Copyright © 1992 by College Entrance Examination Board. All rights reserved.).

## Note on interpreting SAT test scores

According to the College Board, the Scholastic Aptitude Test (SAT) is designed to measure verbal and quantitative reasoning skills related to academic performance in college. SAT scores are statistically controlled to maintain the same meaning from year to year, and therefore useful comparisons over time can be made.[1]

Since 1941, SAT scores have been expressed relative to the performance of a group of approximately 11,000 candidates who took the test in 1941.[2] In order that scores could be compared to this reference group, a short set of common items is included in each year's forms. Each new form is then linked with a previous form, which in turn links back to the 1941 form. A score of 500 on any form of the SAT corresponds to the mean of the 1941 group; and a score of 600 falls one standard deviation above the mean of the 1941 group.[3]

The decline or rise of test scores depends on *many* factors. Changes can involve variations in the composition of the test-takers. For example, between 1963 and 1970, a significant SAT score decline occurred. Because of a continuing increase in the proportion of high school graduates going to college over this period, the group of test-takers became progressively less selective in the cognitive skills measured by the test, and this likely was a major factor in the score decline.[4] The College Board notes that the relationship between SAT test scores and student characteristics are "complex and interdependent."[5] For example, educational, demographic, and socioeconomic factors might influence test scores. However, while these factors may be related, they are not necessarily causal. Moreover, changes in test scores can also be related to variations in performance among similar types of test-takers.

### Standard Deviation Units

Performance on the SAT can be measured in a number of ways. Changes in standard deviation units is one useful metric. Standard deviation units indicate how scores, on average, deviate from the mean. Since the standard deviation is measured on a *common scale* across different tests, it can also be used to compare score changes on a variety of measures.[6]

Once changes in scores across measures have been noted, the significance of these changes should be considered. Some have considered a decline of one standard deviation to be significant. This designation, however, is arbitrary.[7] In *Investment in Learning*, Howard Bowen provides some guidelines for describing changes in standard deviation units (SDUs).[8]

| Estimated change as expressed in SDUs | Descriptive judgment |
|---|---|
| +.75 or above | Extreme increase |
| +.40 to .74 | Large increase |
| +.20 to .39 | Moderate increase |
| +.10 to .19 | Small increase |
| -.09 to +.09 | No change |
| -.10 to -.19 | Small decline |
| -.20 to -.39 | Moderate decline |
| -.40 to -.74 | Large decline |
| -.75 or below | Extreme decline |

Changes in standard deviation units are calculated using the following formula:

$$\frac{\mu_1 - \mu_2}{\sqrt{\frac{1}{2}(\sigma_1^2 + \sigma_2^2)}}$$

where $\mu_1$ and $\mu_2$ are the mean scores in years 1 and 2, respectively, and $\sigma_1$ and $\sigma_2$ are the standard deviations of scores in years 1 and 2, respectively.

For example, table 18-1 indicates that between 1980 and 1985 SAT mean verbal scores increased 7 points and between 1980 and 1987 mean mathematics scores increased 10 points.

Applying the above formula, the following standard deviation units are produced.

Verbal: 431-424/110.5 = +.063

Math: 476-466/119.5 = +.084

According to Bowen's template, the changes in standard deviation units suggest no significant change in scores in this period. Using the same calculation, the decline in verbal and mathematics scores from 1972 to 1992 were -.269 and -.088, respectively—moderate and not significant declines.

NOTES:

1. College Entrance Examination Board. *National Report: College-Bound Seniors*, 1991.

2. Anastasi, Anne. *Psychological Testing.* MacMillan, Fifth edition, 1982, p. 90.

3. College Entrance Examination Board. *National Report: College Bound Seniors*, 1991.

4. College Entrance Examination Board. *On Further Examination: Report of the Advisory Panel on the Advisory Panel on the Scholastic Aptitude Test Score Decline*, 1977.

5. College Entrance Examination Board. *National Report: College Bound Seniors*, 1991.

6. The Congress of the United States, Congressional Budget Office. *Trends in Educational Achievement*, April, 1986.

7. Adelman, Clifford. *The Standardized Test Scores of College Graduates, 1964-1982.* National Institute of Education, 1985, p. 11.

8. Bowen, Howard. *Investment in Learning.* Jossey-Bass, 1977.

## Table 19-1 Scores on the Graduate Record Examination (GRE) and the number of GRE test-takers: Academic years ending 1965–1992

| Year | Number of BAs | GRE test-takers | | GRE scores | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Number | As percent of BAs[1] | Total | Verbal | | Quantitative | |
| | | | | | Mean | Standard deviation | Mean | Standard deviation |
| 1965 | 501,713 | 93,792 | 18.7 | 1,063 | 530 | 124 | 533 | 137 |
| 1966 | 520,923 | 123,960 | 23.8 | 1,048 | 520 | 124 | 528 | 133 |
| 1967 | 558,852 | 151,134 | 27.0 | 1,047 | 519 | 125 | 528 | 134 |
| 1968 | 632,758 | 182,432 | 28.8 | 1,047 | 520 | 124 | 527 | 135 |
| 1969 | 729,071 | 206,113 | 28.3 | 1,039 | 515 | 124 | 524 | 132 |
| 1970 | 792,656 | 265,359 | 33.5 | 1,019 | 503 | 123 | 516 | 132 |
| 1971 | 839,730 | 293,600 | 35.0 | 1,009 | 497 | 125 | 512 | 134 |
| 1972 | 887,273 | 293,506 | 33.1 | 1,002 | 494 | 126 | 508 | 136 |
| 1973 | 922,362 | 290,104 | 31.5 | 1,009 | 497 | 125 | 512 | 135 |
| 1974 | 945,776 | 301,070 | 31.8 | 1,001 | 492 | 126 | 509 | 137 |
| 1975 | 922,933 | 298,335 | 32.3 | 1,001 | 493 | 125 | 508 | 137 |
| 1976 | 925,746 | 299,292 | 32.3 | 1,002 | 492 | 127 | 510 | 138 |
| 1977 | 919,549 | 287,715 | 31.3 | 1,004 | 490 | 129 | 514 | 139 |
| 1978 | 921,204 | 286,383 | 31.1 | 1,002 | 484 | 128 | 518 | 135 |
| 1979 | 921,390 | 282,482 | 30.7 | 993 | 476 | 130 | 517 | 135 |
| 1980 | 929,417 | 272,281 | 29.3 | 996 | 474 | 131 | 522 | 136 |
| 1981 | 935,140 | 262,855 | 28.1 | 996 | 473 | 128 | 523 | 136 |
| 1982 | 952,998 | 256,381 | 26.9 | 1,002 | 469 | 130 | 533 | 137 |
| 1983 | 969,510 | 263,674 | 27.2 | 1,014 | 473 | 131 | 541 | 138 |
| 1984 | 974,309 | 265,221 | 27.2 | 1,016 | 475 | 130 | 541 | 139 |
| 1985 | 979,477 | 271,972 | 27.8 | 1,019 | 474 | 126 | 545 | 140 |
| 1986 | 987,823 | 279,428 | 28.3 | 1,027 | 475 | 126 | 552 | 140 |
| 1987 | 991,339 | 293,560 | 29.6 | 1,027 | 477 | 126 | 550 | 140 |
| 1988 | 994,829 | 303,703 | 30.5 | 1,040 | 483 | 123 | 557 | 140 |
| 1989 | [2]1,018,775 | 326,096 | [2]32.0 | 1,044 | 484 | 125 | 560 | 142 |
| 1990 | [3]1,049,657 | 344,572 | [3]33.0 | 1,048 | 486 | 123 | 562 | 143 |
| 1991 | [4]1,084,000 | 379,882 | [4]35.7 | 1,047 | 485 | 122 | 562 | 141 |
| 1992 | [4]1,105,000 | 441,528 | [4]37.2 | 1,044 | 483 | 120 | 561 | 140 |

[1] Ratio of the number of GRE test-takers to the number of baccalaureate degrees awarded expressed as a percentage.

[2] Revised from previously published data.

[3] Estimated.

[4] Projected.

SOURCE: Education Testing Service; U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1991*, Table 228.

## Table 19-2 Characteristics of Graduate Record Examination (GRE) test-takers: Academic years ending 1976–1988

| Academic year ending | U.S. citizen percent | *Percent English not preferred language |
|---|---|---|
| 1976 | 92.5 | 6.0 |
| 1977 | 91.3 | 6.0 |
| 1978 | 91.1 | 6.0 |
| 1978 | *89.1 | — |
| 1979 | 90.0 | 8.0 |
| 1980 | 89.3 | 8.0 |
| 1981 | 86.8 | 9.0 |
| 1982 | 86.7 | 10.2 |
| 1983 | 86.1 | 10.8 |
| 1984 | 85.9 | 11.4 |
| 1985 | 84.9 | 11.8 |
| 1986 | 84.5 | 12.4 |
| 1987 | 84.2 | 12.7 |
| 1988 | *79.5 | — |

— Not available.

*Based on revised procedures including an improved sample and data handling procedures. See Wah and Robinson (1990).

SOURCE: Wah, Diane M. and Dawn S. Robinson, *Examinee and Score Trends for the GRE General Test: 1977–78, 1982–83, 1986–87, and 1987–88*, Educational Testing Service, 1990. Graduate Record Examination Board, *A Summary of Data Collected from Graduate Record Examinations Test-Takers During 1986–87: Data Summary Report* #12, June 1988 and earlier editions.

## Table 19-3 Graduate Record Examination (GRE) scores for U.S. citizens only: Academic years ending 1973–1988

| Academic year ending | Total (mean) | Verbal | | | Quantitative | | |
|---|---|---|---|---|---|---|---|
| | | Mean | Standard deviation | Percent scoring over 500 | Mean | Standard deviation | Percent scoring over 500 |
| 1973 | 1,010 | 500 | — | — | 510 | — | — |
| 1974 | 1,003 | 498 | — | — | 505 | — | — |
| 1975 | 1,004 | 497 | — | — | 507 | — | — |
| 1976 | 1,005 | 498 | — | — | 507 | — | — |
| 1977 | 1,004 | 495 | — | — | 509 | — | — |
| 1978 | 1,003 | 491 | — | — | 512 | — | — |
| 1979 | 1,011 | 499 | 118 | 49.7 | 512 | 130 | 53.8 |
| 1980 | 1,013 | 500 | 117 | 50.1 | 513 | 129 | 54.7 |
| 1981 | 1,015 | 499 | 115 | 50.8 | 516 | 130 | 55.8 |
| 1982 | 1,019 | 498 | 115 | 49.4 | 521 | 132 | 58.8 |
| 1983 | 1,032 | 503 | 117 | 50.9 | 529 | 133 | 59.7 |
| 1984 | 1,032 | 504 | 116 | 50.7 | 528 | 134 | 58.4 |
| 1985 | 1,029 | 502 | 114 | 49.9 | 527 | 134 | 58.6 |
| 1986 | 1,038 | 506 | 113 | 52.0 | 532 | 134 | 60.2 |
| 1987 | 1,036 | 505 | 115 | 51.5 | 531 | 134 | 59.5 |
| 1988* | 1,045 | 508 | 114 | — | 537 | 135 | — |

— Not available.

*Based on revised procedures. Earlier procedures reported participants in international administration only. The later procedures included participants in international administration (incluidng standby examinees) as well as special administrations at regional offices, Defense Acitivity for Non-Traditional Education Support (DANTES) for military personnel, and the Summer Institutional Testing Program (SITP). See Wah and Robinson (1990)

SOURCE: Wah, Diane M. and Dawn S. Robinson, *Examinee and Score Trends for the GRE General Test: 1977–78, 1982–83, 1986–87, and 1987–88*, Educational Testing Service, 1990; Graduate Record Examination Board, *A Summary of Data Collected from Graduate Record Examinations Test-Takers During 1986–87: Data Summary Report #12*, June 1988 and earlier editions.

## Table 20-1 High school dropout, completion, and enrollment rates for 24- to 25-year-olds, by race/ethnicity: 1972–91

| Year | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | White | Black | Hispanic | Total[1] | White | Black | Hispanic | Total[1] | White | Black | Hispanic |
| 1972 | 17.0 | 14.2 | 26.2 | 49.1 | 82.3 | 85.2 | 73.1 | 49.5 | 0.6 | 0.6 | 0.7 | 1.4 |
| 1973 | 15.8 | 12.8 | 27.7 | 40.0 | 83.6 | 86.7 | 70.9 | 58.5 | 0.6 | 0.4 | 1.4 | 1.5 |
| 1974 | 14.7 | 11.5 | 25.1 | 41.6 | 84.8 | 88.2 | 73.8 | 56.0 | 0.5 | 0.3 | 1.1 | 2.3 |
| 1975 | 14.8 | 10.9 | 27.3 | 47.5 | 84.4 | 88.4 | 71.6 | 51.2 | 0.8 | 0.7 | 1.1 | 1.3 |
| 1976 | 13.8 | 10.3 | 25.2 | 40.7 | 85.6 | 89.1 | 74.3 | 57.7 | 0.6 | 0.6 | 0.5 | 1.6 |
| 1977 | 14.1 | 10.8 | 24.4 | 43.1 | 85.4 | 88.8 | 75.4 | 54.8 | 0.5 | 0.4 | 0.2 | 2.2 |
| 1978 | 14.4 | 11.6 | 21.5 | 42.1 | 85.1 | 88.1 | 77.4 | 57.4 | 0.4 | 0.3 | 1.1 | 0.5 |
| 1979 | 14.9 | 11.2 | 23.3 | 46.2 | 84.5 | 88.4 | 75.3 | 51.6 | 0.6 | 0.4 | 1.3 | 2.3 |
| 1980 | 15.4 | 11.7 | 24.6 | 44.1 | 83.9 | 87.7 | 74.3 | 54.9 | 0.6 | 0.5 | 1.0 | 1.0 |
| 1981 | 15.0 | 11.5 | 23.1 | 38.0 | 84.4 | 88.1 | 75.1 | 61.6 | 0.6 | 0.4 | 1.7 | 0.4 |
| 1982 | 14.4 | 11.2 | 20.8 | 40.0 | 84.8 | 88.2 | 77.3 | 59.2 | 0.8 | 0.6 | 1.8 | 0.7 |
| 1983 | 13.8 | 10.7 | 20.6 | 39.5 | 85.7 | 89.1 | 78.2 | 59.0 | 0.5 | 0.3 | 1.2 | 1.5 |
| 1984 | 14.2 | 10.7 | 22.1 | 37.9 | 85.2 | 89.0 | 76.6 | 60.4 | 0.6 | 0.4 | 1.3 | 1.7 |
| 1985 | 13.7 | 9.8 | 20.2 | 35.3 | 86.0 | 90.0 | 79.0 | 63.6 | 0.4 | 0.2 | 0.8 | 1.0 |
| 1986 | 13.6 | 10.4 | 15.5 | 35.8 | 85.8 | 89.3 | 83.5 | 62.6 | 0.5 | 0.2 | 1.1 | 1.6 |
| 1987[2] | 14.8 | 12.1 | 14.8 | 35.3 | 84.7 | 87.6 | 83.8 | 64.4 | 0.5 | 0.3 | 1.5 | 0.4 |
| 1988[2] | 14.2 | 10.6 | 14.2 | 39.6 | 85.5 | 89.1 | 85.7 | 60.0 | 0.3 | 0.3 | 0.1 | 0.4 |
| 1989[2] | 13.7 | 9.6 | 14.3 | 40.8 | 86.0 | 90.3 | 85.0 | 58.5 | 0.3 | 0.1 | 0.7 | 0.7 |
| 1990[2] | 14.2 | 9.3 | 17.1 | 44.6 | 85.4 | 90.4 | 82.2 | 54.8 | 0.4 | 0.4 | 0.7 | 0.6 |
| 1991[2] | 14.8 | 10.4 | 14.1 | 45.5 | 84.9 | 89.4 | 85.2 | 53.5 | 0.3 | 0.2 | 0.6 | 1.0 |

[1] Included in the total are individuals who are not Hispanic, black, or white; most of these individuals are Asian/Pacific Islanders and some are American Indian/Alaskan natives.

[2] Numbers from these years reflect new editing procedures instituted by the Bureau of the Census in 1986 for cases with missing data on school enrollment items.

NOTE: The status dropout rate is the percentage of 24- to 25-year-olds who had not completed high school and were not currently enrolled in school. The high school completion rate is the percentage of 24- to 25-year-olds who had completed 12 or more years of school. The high school enrollment rate is the percentage of 24- to 25-year-olds who were currently enrolled in school below the college level. The three rates sum to 100 percent.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-2 High school dropout, completion, and enrollment rates for 28- to 29-year-olds, by race/ethnicity: 1972–91

| Year | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | White | Black | Hispanic | Total[1] | White | Black | Hispanic | Total[1] | White | Black | Hispanic |
| 1972 | 20.5 | 17.2 | 33.8 | 47.5 | 79.0 | 82.3 | 65.9 | 50.5 | 0.6 | 0.5 | 0.2 | 2.1 |
| 1973 | 19.5 | 16.5 | 32.3 | 49.8 | 80.3 | 83.4 | 67.0 | 50.2 | 0.2 | 0.1 | 0.8 | 0.0 |
| 1974 | 18.1 | 14.5 | 30.5 | 51.0 | 81.6 | 85.3 | 68.9 | 48.5 | 0.3 | 0.2 | 0.7 | 0.5 |
| 1975 | 15.9 | 12.9 | 30.2 | 42.4 | 83.6 | 86.8 | 69.0 | 56.6 | 0.5 | 0.4 | 0.8 | 1.0 |
| 1976 | 16.1 | 12.5 | 28.7 | 48.2 | 83.3 | 87.1 | 70.4 | 49.7 | 0.6 | 0.5 | 0.8 | 2.1 |
| 1977 | 14.3 | 11.1 | 23.5 | 43.6 | 85.1 | 88.4 | 75.5 | 56.0 | 0.6 | 0.6 | 1.0 | 0.4 |
| 1978 | 13.7 | 10.5 | 21.4 | 42.9 | 86.0 | 89.3 | 78.4 | 56.2 | 0.3 | 0.3 | 0.2 | 0.9 |
| 1979 | 13.7 | 10.3 | 22.1 | 42.0 | 86.0 | 89.5 | 77.2 | 56.6 | 0.3 | 0.2 | 0.7 | 1.3 |
| 1980 | 13.1 | 9.9 | 19.6 | 39.6 | 86.6 | 89.8 | 79.8 | 59.3 | 0.3 | 0.2 | 0.5 | 1.1 |
| 1981 | 12.9 | 9.3 | 20.8 | 40.8 | 86.6 | 90.5 | 78.3 | 57.4 | 0.5 | 0.2 | 0.9 | 1.8 |
| 1982 | 12.1 | 9.2 | 18.3 | 37.1 | 87.6 | 90.6 | 81.7 | 61.5 | 0.3 | 0.2 | 0.0 | 1.4 |
| 1983 | 12.7 | 9.6 | 16.7 | 41.8 | 86.8 | 90.1 | 82.9 | 56.8 | 0.4 | 0.3 | 0.4 | 1.4 |
| 1984 | 13.5 | 10.2 | 19.9 | 39.3 | 86.2 | 89.6 | 79.4 | 60.1 | 0.3 | 0.2 | 0.7 | 0.6 |
| 1985 | 13.6 | 10.4 | 15.8 | 39.5 | 86.0 | 89.2 | 83.8 | 60.1 | 0.4 | 0.4 | 0.4 | 0.5 |
| 1986 | 13.6 | 10.1 | 17.5 | 39.1 | 85.9 | 89.7 | 81.7 | 59.4 | 0.4 | 0.2 | 0.8 | 1.4 |
| 1987[2] | 13.4 | 9.8 | 15.9 | 81.2 | 59.4 | 0.4 | 0.2 | 0.4 | 1.5 | | | |
| 1988[2] | 13.7 | 9.9 | 15.7 | 40.9 | 86.1 | 89.9 | 84.3 | 58.3 | 0.2 | 0.2 | 0.0 | 0.9 |
| 1989[2] | 13.0 | 9.1 | 18.4 | 39.1 | 86.6 | 90.7 | 81.2 | 59.4 | 0.4 | 0.2 | 0.4 | 1.5 |
| 1990[2] | 13.4 | 9.0 | 20.3 | 38.7 | 86.4 | 90.7 | 79.5 | 61.1 | 0.3 | 0.2 | 0.3 | 0.2 |
| 1991[2] | 13.5 | 10.0 | 14.4 | 41.4 | 86.1 | 89.7 | 85.2 | 57.3 | 0.4 | 0.3 | 0.5 | 1.3 |

[1] Included in the total are individuals who are not Hispanic, black, or white; most of these individuals are Asian/Pacific Islanders and some are American Indian/Alaskan natives.

[2] Numbers from these years reflect new editing procedures instituted by the Bureau of the Census in 1986 for cases with missing data on school enrollment items.

NOTE: The status dropout rate is the percentage of 28- to 29-year-olds who had not completed high school and were not currently enrolled in school. The high school completion rate is the percentage of 28- to 29-year-olds who had completed 12 or more years of school. The high school school enrollment rate is the percentage of 28- to 29-year-olds who were currently enrolled in school below the college level. The three rates sum to 100 percent.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-3 High school status dropout rates, by age and by family income: 1972–91

| Year | 19–20 years old |  |  | 24–25 years old |  |  | 28–29 years old |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Low income | Middle income | High income | Low income | Middle income | High income | Low income | Middle income | High income |
| 1972 | 28.6 | 17.7 | 4.8 | 32.6 | 17.5 | 6.8 | 48.0 | 21.2 | 9.8 |
| 1973 | 26.0 | 17.6 | 4.4 | 34.3 | 15.8 | 5.0 | 48.1 | 21.3 | 5.7 |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 31.4 | 17.6 | 4.6 | 33.5 | 14.0 | 4.9 | 41.3 | 16.8 | 4.8 |
| 1976 | 31.8 | 16.6 | 5.1 | 25.8 | 13.6 | 4.6 | 37.8 | 16.5 | 5.8 |
| 1977 | 28.1 | 17.2 | 4.7 | 31.2 | 13.3 | 3.8 | 39.2 | 14.0 | 3.9 |
| 1978 | 30.0 | 17.0 | 5.5 | 30.7 | 13.6 | 4.9 | 35.7 | 13.7 | 5.1 |
| 1979 | 28.5 | 18.1 | 6.9 | 29.3 | 14.5 | 4.6 | 37.1 | 13.3 | 4.5 |
| 1980 | 29.4 | 17.9 | 5.5 | 33.9 | 14.3 | 4.6 | 33.6 | 13.2 | 3.4 |
| 1981 | 29.5 | 16.8 | 4.6 | 31.4 | 13.9 | 6.2 | 30.7 | 12.8 | 3.0 |
| 1982 | 31.8 | 17.3 | 4.1 | 31.2 | 12.9 | 4.9 | 30.9 | 11.3 | 3.0 |
| 1983 | 26.9 | 17.2 | 3.6 | 28.1 | 13.0 | 4.5 | 30.1 | 12.7 | 2.2 |
| 1984 | 26.9 | 16.5 | 4.2 | 31.8 | 12.4 | 3.5 | 32.1 | 13.4 | 2.7 |
| 1985 | 26.9 | 13.3 | 4.2 | 32.5 | 11.8 | 3.6 | 38.0 | 12.5 | 2.6 |
| 1986 | 27.7 | 11.7 | 3.9 | 33.3 | 11.6 | 2.7 | 38.0 | 12.2 | 2.2 |
| 1987* | 27.1 | 14.7 | 3.4 | 30.7 | 13.7 | 4.4 | 35.8 | 12.1 | 4.1 |
| 1988* | 31.4 | 14.9 | 3.4 | 29.8 | 13.0 | 4.2 | 34.4 | 12.9 | 2.5 |
| 1989* | 25.9 | 16.1 | 4.7 | 28.5 | 13.1 | 2.9 | 31.6 | 12.0 | 3.1 |
| 1990* | 25.1 | 14.8 | 2.5 | 34.7 | 12.0 | 3.8 | 33.6 | 12.3 | 3.0 |
| 1991* | 29.7 | 13.9 | 2.5 | 31.4 | 12.6 | 5.1 | 36.1 | 11.9 | 2.8 |

— Not available.

*Numbers from these years reflect new editing procedures instituted by the Bureau of the Census in 1986 for cases with missing data on school enrollment items.

NOTE: Status dropout rates measure the number of a particular age group who had not completed high school and were not currently enrolled in school. Many 19- to 20-year-olds are still a part of their parents' household and family income is primarily their parents' income. Most 28- to 29-year-olds are living on their own and so family income is limited to their own income. Thus comparisons of dropout rates across family groups should be made between years and not between age groups. Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes, and middle income is defined as the 60 percent of family incomes between high and low income.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-4 Standard errors for estimated percentages in text table for *Indicator 20*

| Year | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1972 | 0.6 | 0.6 | 2.5 | 4.9 | 0.7 | 0.7 | 2.7 | 5.0 | 0.3 | 0.3 | 1.4 | 2.5 |
| 1973 | 0.6 | 0.6 | 2.5 | 5.1 | 0.6 | 0.6 | 2.6 | 5.2 | 0.3 | 0.2 | 1.3 | 2.4 |
| 1974 | 0.6 | 0.6 | 2.4 | 4.4 | 0.6 | 0.7 | 2.6 | 4.6 | 0.3 | 0.2 | 1.6 | 2.6 |
| 1975 | 0.6 | 0.6 | 2.3 | 4.4 | 0.6 | 0.7 | 2.5 | 4.6 | 0.3 | 0.2 | 1.4 | 2.2 |
| 1976 | 0.6 | 0.6 | 2.2 | 4.2 | 0.6 | 0.6 | 2.4 | 4.4 | 0.3 | 0.2 | 1.4 | 2.4 |
| 1977 | 0.6 | 0.6 | 2.2 | 4.3 | 0.6 | 0.6 | 2.4 | 4.4 | 0.3 | 0.2 | 1.5 | 2.0 |
| 1978 | 0.6 | 0.6 | 2.2 | 4.4 | 0.6 | 0.6 | 2.4 | 4.5 | 0.3 | 0.2 | 1.4 | 2.1 |
| 1979 | 0.6 | 0.6 | 2.3 | 4.3 | 0.6 | 0.7 | 2.4 | 4.4 | 0.3 | 0.3 | 1.1 | 1.9 |
| 1980 | 0.6 | 0.6 | 2.2 | 4.0 | 0.6 | 0.6 | 2.4 | 4.0 | 0.2 | 0.2 | 1.2 | 1.7 |
| 1981 | 0.6 | 0.6 | 2.1 | 3.8 | 0.6 | 0.7 | 2.3 | 3.9 | 0.3 | 0.3 | 1.3 | 2.0 |
| 1982 | 0.6 | 0.7 | 2.3 | 4.2 | 0.7 | 0.7 | 2.5 | 4.3 | 0.3 | 0.3 | 1.4 | 2.1 |
| 1983 | 0.6 | 0.6 | 2.2 | 4.0 | 0.7 | 0.7 | 2.4 | 4.2 | 0.3 | 0.3 | 1.2 | 2.3 |
| 1984 | 0.6 | 0.7 | 2.0 | 4.2 | 0.7 | 0.7 | 2.3 | 4.4 | 0.3 | 0.3 | 1.3 | 2.2 |
| 1985 | 0.6 | 0.6 | 2.1 | 4.3 | 0.7 | 0.7 | 2.4 | 4.6 | 0.3 | 0.3 | 1.4 | 2.3 |
| 1986 | 0.6 | 0.6 | 2.1 | 4.1 | 0.7 | 0.7 | 2.4 | 4.3 | 0.3 | 0.3 | 1.4 | 2.1 |
| 1987 | 0.6 | 0.7 | 2.0 | 3.9 | 0.7 | 0.7 | 2.3 | 4.1 | 0.3 | 0.3 | 1.2 | 2.1 |
| 1988 | 0.7 | 0.7 | 2.5 | 5.1 | 0.8 | 0.8 | 2.8 | 5.1 | 0.3 | 0.3 | 1.5 | 2.3 |
| 1989 | 0.7 | 0.7 | 2.3 | 4.8 | 0.8 | 0.8 | 2.6 | 4.9 | 0.3 | 0.3 | 1.5 | 2.5 |
| 1990 | 0.6 | 0.7 | 2.1 | 4.1 | 0.7 | 0.7 | 2.4 | 4.2 | 0.3 | 0.3 | 1.4 | 2.1 |
| 1991 | 0.7 | 0.7 | 2.1 | 4.0 | 0.7 | 0.8 | 2.5 | 4.2 | 0.4 | 0.3 | 1.7 | 2.4 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-5 Standard errors for estimated percentages in table 20-1

| Year | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1972 | 0.7 | 0.7 | 2.8 | 5.3 | 0.6 | 0.6 | 2.7 | 5.5 | 0.1 | 0.1 | 0.5 | 1.3 |
| 1973 | 0.6 | 0.6 | 2.7 | 5.5 | 0.6 | 0.6 | 2.7 | 5.5 | 0.1 | 0.1 | 0.7 | 1.3 |
| 1974 | 0.6 | 0.6 | 2.7 | 5.2 | 0.6 | 0.6 | 2.7 | 5.2 | 0.1 | 0.1 | 0.6 | 1.6 |
| 1975 | 0.6 | 0.6 | 2.7 | 4.9 | 0.6 | 0.6 | 2.7 | 4.9 | 0.1 | 0.2 | 0.6 | 1.1 |
| 1976 | 0.6 | 0.6 | 2.7 | 4.8 | 0.6 | 0.6 | 2.7 | 4.8 | 0.1 | 0.1 | 0.4 | 1.2 |
| 1977 | 0.6 | 0.6 | 2.5 | 4.9 | 0.6 | 0.6 | 2.5 | 4.9 | 0.1 | 0.1 | 0.2 | 1.4 |
| 1978 | 0.6 | 0.6 | 2.5 | 4.6 | 0.6 | 0.6 | 2.5 | 4.6 | 0.1 | 0.1 | 0.6 | 0.6 |
| 1979 | 0.6 | 0.6 | 2.5 | 4.6 | 0.6 | 0.6 | 2.5 | 4.6 | 0.1 | 0.1 | 0.7 | 1.4 |
| 1980 | 0.6 | 0.6 | 2.4 | 4.3 | 0.6 | 0.6 | 2.4 | 4.3 | 0.1 | 0.1 | 0.6 | 0.8 |
| 1981 | 0.6 | 0.6 | 2.2 | 3.9 | 0.6 | 0.6 | 2.2 | 3.9 | 0.1 | 0.1 | 0.7 | 0.5 |
| 1982 | 0.6 | 0.6 | 2.3 | 4.3 | 0.6 | 0.6 | 2.3 | 4.3 | 0.1 | 0.1 | 0.7 | 0.8 |
| 1983 | 0.6 | 0.6 | 2.3 | 4.3 | 0.6 | 0.6 | 2.3 | 4.3 | 0.1 | 0.1 | 0.6 | 1.1 |
| 1984 | 0.6 | 0.6 | 2.3 | 4.2 | 0.6 | 0.6 | 2.3 | 4.2 | 0.1 | 0.1 | 0.6 | 1.1 |
| 1985 | 0.6 | 0.6 | 2.3 | 4.0 | 0.6 | 0.6 | 2.3 | 4.0 | 0.1 | 0.1 | 0.5 | 0.8 |
| 1986 | 0.6 | 0.6 | 2.0 | 4.0 | 0.6 | 0.6 | 2.0 | 4.0 | 0.1 | 0.1 | 0.6 | 1.0 |
| 1987 | 0.6 | 0.6 | 2.0 | 4.0 | 0.6 | 0.6 | 2.0 | 4.0 | 0.1 | 0.1 | 0.7 | 0.5 |
| 1988 | 0.6 | 0.7 | 2.0 | 4.5 | 0.6 | 0.7 | 2.0 | 4.5 | 0.1 | 0.1 | 0.2 | 0.6 |
| 1989 | 0.6 | 0.6 | 2.1 | 4.6 | 0.6 | 0.6 | 2.1 | 4.6 | 0.1 | 0.1 | 0.5 | 0.8 |
| 1990 | 0.7 | 0.6 | 2.3 | 4.1 | 0.7 | 0.6 | 2.3 | 4.1 | 0.1 | 0.1 | 0.5 | 0.7 |
| 1991 | 0.7 | 0.7 | 2.1 | 4.2 | 0.7 | 0.7 | 2.1 | 4.2 | 0.1 | 0.1 | 0.5 | 0.8 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-6 Standard errors for estimated percentages in table 20-2

| Year | Status dropout rate | | | | High school completion rate | | | | High school enrollment rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1972 | 0.8 | 0.8 | 3.3 | 5.7 | 0.8 | 0.8 | 3.3 | 5.7 | 0.1 | 0.1 | 0.3 | 1.6 |
| 1973 | 0.8 | 0.8 | 3.3 | 6.2 | 0.8 | 0.8 | 3.3 | 6.2 | 0.1 | 0.1 | 0.6 | 0.0 |
| 1974 | 0.7 | 0.7 | 3.1 | 6.0 | 0.7 | 0.7 | 3.2 | 6.0 | 0.1 | 0.1 | 0.6 | 0.9 |
| 1975 | 0.6 | 0.6 | 3.1 | 5.3 | 0.6 | 0.6 | 3.1 | 5.3 | 0.1 | 0.1 | 0.6 | 1.1 |
| 1976 | 0.6 | 0.6 | 2.8 | 4.9 | 0.6 | 0.6 | 2.8 | 4.9 | 0.1 | 0.1 | 0.6 | 1.4 |
| 1977 | 0.6 | 0.6 | 2.6 | 5.2 | 0.6 | 0.6 | 2.6 | 5.2 | 0.1 | 0.1 | 0.6 | 0.7 |
| 1978 | 0.6 | 0.6 | 2.5 | 4.8 | 0.6 | 0.6 | 2.5 | 4.8 | 0.1 | 0.1 | 0.3 | 0.9 |
| 1979 | 0.6 | 0.6 | 2.4 | 4.6 | 0.6 | 0.6 | 2.4 | 4.6 | 0.1 | 0.1 | 0.5 | 1.1 |
| 1980 | 0.6 | 0.6 | 2.4 | 4.4 | 0.6 | 0.6 | 2.4 | 4.4 | 0.1 | 0.1 | 0.4 | 0.9 |
| 1981 | 0.6 | 0.5 | 2.4 | 4.1 | 0.6 | 0.5 | 2.4 | 4.1 | 0.1 | 0.1 | 0.5 | 1.1 |
| 1982 | 0.6 | 0.6 | 2.3 | 4.5 | 0.6 | 0.6 | 2.3 | 4.5 | 0.1 | 0.1 | 0.0 | 1.1 |
| 1983 | 0.6 | 0.6 | 2.2 | 4.3 | 0.6 | 0.6 | 2.2 | 4.3 | 0.1 | 0.1 | 0.4 | 1.0 |
| 1984 | 0.6 | 0.6 | 2.3 | 4.2 | 0.6 | 0.6 | 2.3 | 4.2 | 0.1 | 0.1 | 0.5 | 0.7 |
| 1985 | 0.6 | 0.6 | 2.0 | 4.3 | 0.6 | 0.6 | 2.0 | 4.3 | 0.1 | 0.1 | 0.3 | 0.6 |
| 1986 | 0.6 | 0.6 | 2.1 | 4.3 | 0.6 | 0.6 | 2.1 | 4.3 | 0.1 | 0.1 | 0.5 | 1.0 |
| 1987 | 0.6 | 0.6 | 2.0 | 4.0 | 0.6 | 0.6 | 2.0 | 4.0 | 0.1 | 0.1 | 0.2 | 0.8 |
| 1988 | 0.6 | 0.6 | 2.2 | 4.6 | 0.6 | 0.6 | 2.2 | 4.6 | 0.1 | 0.1 | 0.0 | 0.9 |
| 1989 | 0.6 | 0.6 | 2.3 | 4.9 | 0.6 | 0.6 | 2.3 | 4.9 | 0.1 | 0.1 | 0.4 | 1.2 |
| 1990 | 0.6 | 0.6 | 2.4 | 4.1 | 0.6 | 0.6 | 2.4 | 4.1 | 0.1 | 0.1 | 0.3 | 0.4 |
| 1991 | 0.6 | 0.6 | 2.0 | 4.3 | 0.6 | 0.6 | 2.0 | 4.3 | 0.1 | 0.1 | 0.4 | 1.0 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 20-7 Standard errors for estimated percentages in table 20-3

| Year | 19–20 years old | | | 24–25 years old | | | 28–29 years old | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low income | Middle income | High income | Low income | Middle income | High income | Low income | Middle income | High income |
| 1972 | 1.9 | 0.8 | 0.7 | 2.5 | 0.8 | 2.0 | 3.6 | 0.9 | 1.2 |
| 1973 | 1.9 | 0.8 | 0.7 | 2.6 | 0.7 | 0.9 | 3.6 | 0.9 | 0.9 |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 1.9 | 0.8 | 0.7 | 2.3 | 0.7 | 0.9 | 3.1 | 0.8 | 0.8 |
| 1976 | 1.8 | 0.8 | 0.7 | 2.0 | 0.7 | 0.9 | 2.8 | 0.8 | 0.9 |
| 1977 | 1.8 | 0.8 | 0.7 | 2.1 | 0.7 | 0.8 | 2.7 | 0.7 | 0.7 |
| 1978 | 1.8 | 0.8 | 0.7 | 2.2 | 0.7 | 0.9 | 2.8 | 0.7 | 0.8 |
| 1979 | 1.8 | 0.8 | 0.8 | 2.1 | 0.7 | 0.9 | 2.7 | 0.7 | 0.8 |
| 1980 | 1.7 | 0.8 | 0.7 | 2.1 | 0.7 | 0.9 | 2.6 | 0.7 | 0.7 |
| 1981 | 1.8 | 0.8 | 0.7 | 1.9 | 0.7 | 0.9 | 2.2 | 0.7 | 0.6 |
| 1982 | 1.9 | 0.9 | 0.6 | 2.0 | 0.7 | 0.9 | 2.2 | 0.7 | 0.6 |
| 1983 | 1.8 | 0.9 | 0.6 | 1.9 | 0.7 | 0.8 | 2.2 | 0.7 | 0.5 |
| 1984 | 1.8 | 0.9 | 0.7 | 1.9 | 0.7 | 0.7 | 2.2 | 0.7 | 0.6 |
| 1985 | 1.7 | 0.8 | 0.7 | 2.0 | 0.7 | 0.7 | 2.3 | 0.7 | 0.6 |
| 1986 | 1.8 | 0.8 | 0.7 | 2.0 | 0.7 | 0.7 | 2.2 | 0.7 | 0.5 |
| 1987 | 1.8 | 0.9 | 0.6 | 1.9 | 0.7 | 0.8 | 2.2 | 0.6 | 0.7 |
| 1988 | 2.1 | 1.0 | 0.7 | 2.1 | 0.7 | 0.9 | 2.4 | 0.7 | 0.6 |
| 1989 | 1.9 | 1.0 | 0.8 | 2.1 | 0.8 | 0.7 | 2.2 | 0.7 | 0.7 |
| 1990 | 1.8 | 0.9 | 0.6 | 2.2 | 0.7 | 0.9 | 2.2 | 0.7 | 0.7 |
| 1991 | 1.9 | 0.9 | 0.6 | 2.0 | 0.8 | 1.0 | 2.2 | 0.7 | 0.6 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 21-1 Percentage of 16- to 24-year-old status dropouts completing given amounts of education, by recency of migration and ethnicity: November 1989

| Recency of migration | 6 years or less | 7–8 years | 9 years | 10 years | 11 years |
|---|---|---|---|---|---|
| | | | **Hispanic** | | |
| **Total*** | **25.4** | **20.8** | **18.3** | **16.8** | **18.7** |
| Born outside 50 states and D.C. | 36.1 | 23.5 | 19.3 | 9.8 | 11.3 |
| First generation | 0.0 | 16.9 | 16.9 | 23.0 | 43.3 |
| Second generation | 5.9 | 11.9 | 17.3 | 35.4 | 29.5 |
| | | | **Non-Hispanic** | | |
| **Total*** | **4.8** | **14.4** | **21.5** | **31.1** | **28.2** |
| Born outside 50 states and D.C. | 27.9 | 8.0 | 9.5 | 37.5 | 17.2 |
| First generation | 8.6 | 11.9 | 13.6 | 24.2 | 41.7 |
| Second generation | 4.0 | 14.6 | 22.2 | 30.6 | 28.5 |

*Total includes a small proportion for whom recency of migration is unknown.

NOTE: People born in Puerto Rico and the U.S. territories are grouped with those born in other countries. Individuals are classified as first generation if they were born in the U.S. but at least one of their parents was not born in the U.S. Seond generation includes those who were born in the U.S. and both of their parents were born in the U.S.

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-2 Recency of migration among 16- to 24-year-olds, by ethnicity: November 1989

| Recency of migration | Total | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| **Total*** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Born outside 50 states and D.C. | 7.8 | 44.7 | 36.4 | 40.8 | 59.0 | 3.5 | 1.3 | 3.8 | 65.6 |
| First generation | 7.6 | 27.4 | 52.8 | 23.7 | 25.2 | 5.3 | 5.3 | 2.2 | 21.5 |
| Second generation | 84.7 | 28.0 | 10.8 | 35.6 | 15.8 | 91.3 | 93.3 | 94.1 | 12.9 |

*Total includes a small proportion for whom recency of migration is unknown.

NOTE: People born in Puerto Rico and the U.S. territories are grouped with those born in other countries. Individuals are classified as first generation if they were born in the U.S. but at least one of their parents was not born in the U.S. Seond generation includes those who were born in the U.S. and both of their parents were born in the U.S.

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-3 Recency of migration of 16- to 24-year-old dropouts, by ethnicity: November 1989

| Recency of migration | Total | Hispanic | Non-Hispanic | | | |
|---|---|---|---|---|---|---|
| | | | Total | White | Black | Asian |
| **Total[1]** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Born outside 50 states and D.C. | 18.0 | 62.9 | 2.7 | 0.9 | 2.8 | (2) |
| First generation | 6.3 | 15.5 | 3.2 | 3.4 | 2.2 | (2) |
| Second generation | 75.7 | 21.7 | 94.2 | 95.8 | 95.1 | (2) |

[1] Total includes a small proportion for whom recency of migration is unknown.

[2] Too few sample observations for a reliable estimate.

NOTE: People born in Puerto Rico and the U.S. territories are grouped with those born in other countries. Individuals are classified as first generation if they were born in the U.S. but at least one of their parents was not born in the U.S. Seond generation includes those who were born in the U.S. and both of their parents were born in the U.S.

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-4 Percentage of all Hispanic dropouts, by Hispanic subgroup: November 1989

| Recency of migration | Total | Puerto Rican | Mexican | Other Hispanic |
|---|---|---|---|---|
| **Total*** | **100.0** | **12.3** | **74.5** | **13.2** |
| Born outside 50 states and D.C. | 62.9 | 6.3 | 47.5 | 9.1 |
| First generation | 15.5 | 4.9 | 9.3 | 1.2 |
| Second generation | 21.7 | 1.1 | 17.6 | 3.0 |

*Total includes a small proportion for whom recency of migration is unknown.

NOTE: People born in Puerto Rico and the U.S. territories are grouped with those born in other countries. Individuals are classified as first generation if they were born in the U.S. but at least one of their parents was not born in the U.S. Second generation includes those who were born in the U.S. and both of their parents were born in the U.S.

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-5 Standard errors for estimated percentages in text table for *Indicator 21*

| Recency of migration | Total | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| | | **Percentage of 16- to 24-year-olds who were not enrolled in school and had not completed high school** | | | | | | | |
| **Total** | **0.3** | **2.2** | **6.6** | **2.8** | **3.6** | **0.3** | **0.3** | **1.0** | **2.5** |
| Born outside 50 states and D.C. | 1.6 | 3.6 | 12.0 | 4.8 | 5.1 | 1.5 | 2.4 | 4.7 | 3.5 |
| First generation | 1.1 | 3.5 | 8.5 | 4.9 | 4.6 | 1.1 | 1.2 | 7.1 | 3.7 |
| Second generation | 0.3 | 3.9 | (*) | 4.3 | 10.6 | 0.3 | 0.4 | 1.1 | 5.9 |

| Recency of migration | Total | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| | | **Percentage of 25- to 34-year-olds who had not completed high school** | | | | | | | |
| **1979 Total** | **0.3** | **2.0** | **5.3** | **2.5** | **3.5** | **0.8** | **0.3** | **1.2** | **—** |
| Born outside 50 states and D.C. | 2.4 | 3.0 | 6.1 | 3.3 | 4.8 | 4.4 | 2.4 | 5.3 | — |
| First generation | 1.2 | 4.1 | 10.0 | 5.3 | 5.1 | 5.7 | 1.2 | 9.9 | — |
| Second generation | 0.3 | 3.0 | 33.7 | 3.8 | 6.0 | 0.8 | 0.4 | 1.3 | — |
| **1989 Total** | **0.3** | **2.7** | **6.8** | **2.8** | **3.9** | **0.7** | **0.3** | **0.9** | **1.5** |
| Born outside 50 states and D.C. | 2.7 | 4.1 | 9.4 | 3.8 | 4.6 | 3.2 | 1.8 | 3.5 | 1.9 |
| First generation | 1.4 | 5.4 | 10.9 | 5.4 | 14.5 | 4.1 | 0.9 | 5.6 | 3.3 |
| Second generation | 0.3 | 3.9 | 19.9 | 4.0 | 9.0 | 0.8 | 0.3 | 1.0 | 2.8 |

—Not available

*Too few sample observations for a reliable estimate.

## Table 21-6 Standard errors for estimated percentages in table 21-1

| Recency of migration | 6 years or less | 7–8 years | 9 years | 10 years | 11 years |
|---|---|---|---|---|---|
| | | | **Hispanic** | | |
| **Total** | **3.7** | **3.4** | **3.3** | **3.2** | **3.3** |
| Born outside 50 states and D.C. | 5.3 | 4.7 | 4.4 | 3.3 | 3.5 |
| First generation | 0.0 | 8.4 | 8.4 | 9.4 | 11.1 |
| Second generation | 4.5 | 6.1 | 7.2 | 9.1 | 8.6 |
| | | | **Non-Hispanic** | | |
| **Total** | **0.7** | **1.1** | **1.3** | **1.4** | **1.4** |
| Born outside 50 states and D.C. | 8.7 | 5.2 | 5.7 | 9.3 | 7.3 |
| First generation | 5.0 | 5.7 | 6.1 | 7.6 | 8.7 |
| Second generation | 0.6 | 1.2 | 1.4 | 1.5 | 1.5 |

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-7 Standard errors for estimated percentges in table 21-2

| Recency of migration | Total | Hispanic | | | | Non-Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Puerto Rican | Mexican | Other Hispanic | Total | White | Black | Asian |
| Born outside 50 states and D.C. | 0.3 | 2.4 | 6.9 | 3.0 | 4.9 | 0.2 | 0.1 | 0.6 | 4.9 |
| First generation | 0.3 | 2.2 | 7.2 | 2.6 | 4.3 | 0.2 | 0.3 | 0.4 | 4.2 |
| Second generation | 0.4 | 2.2 | 4.5 | 2.9 | 3.6 | 0.3 | 0.3 | 0.7 | 3.4 |

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-8 Standard errors for estimated percentges in table 21-3

| Recency of migration | Total | Hispanic | Non-Hispanic | | | |
|---|---|---|---|---|---|---|
| | | | Total | White | Black | Asian |
| Born outside 50 states and D.C. | 1.1 | 4.3 | 0.5 | 0.3 | 1.3 | (*) |
| First generation | 0.7 | 3.2 | 0.6 | 0.7 | 1.1 | (*) |
| Second generation | 1.2 | 3.6 | 1.2 | 0.7 | 1.7 | (*) |

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 21-9 Standard errors for estimated percentges in table 21-4

| Recency of migration | Total | Pureto Rican | Mexican | Other Hispanic |
|---|---|---|---|---|
| **Total** | **—** | **2.7** | **3.7** | **2.9** |
| Born outside 50 states and D.C. | 4.3 | 2.1 | 4.4 | 2.5 |
| First generation | 3.2 | 1.9 | 2.6 | 1.0 |
| Second generation | 3.6 | 0.9 | 3.4 | 1.5 |

— Not applicable

SOURCE: U.S. Bureau of the Census, November Current Population Survey, 1989.

## Table 22-1 Standard errors for estimated percentages in text table of *Indicator 22*

| Age | High school diploma or equivalency certificate | | | | | | Some college or associate's degree | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Men | Women | Total | White | Black | Hispanic | Men | Women |
| 20–24 | 0.4 | 0.4 | 1.6 | 2.5 | 0.6 | 0.6 | 0.6 | 0.7 | 1.8 | 2.6 | 0.9 | 0.9 |
| 25–29 | 0.4 | 0.4 | 1.5 | 2.4 | 0.6 | 0.6 | 0.6 | 0.7 | 1.8 | 2.4 | 0.9 | 0.9 |
| 30–34 | 0.4 | 0.4 | 1.4 | 2.5 | 0.6 | 0.5 | 0.6 | 0.7 | 1.8 | 2.4 | 0.8 | 0.8 |
| 35–39 | 0.4 | 0.4 | 1.6 | 2.7 | 0.5 | 0.5 | 0.6 | 0.7 | 1.9 | 2.6 | 0.8 | 0.8 |
| 40–44 | 0.4 | 0.4 | 1.7 | 2.9 | 0.6 | 0.5 | 0.6 | 0.7 | 2.1 | 2.8 | 0.9 | 0.9 |
| 45–49 | 0.5 | 0.5 | 2.3 | 3.5 | 0.7 | 0.7 | 0.7 | 0.8 | 2.4 | 3.2 | 1.0 | 1.0 |
| 50–54 | 0.6 | 0.6 | 2.6 | 3.9 | 0.9 | 0.9 | 0.8 | 0.8 | 2.4 | 3.4 | 1.1 | 1.0 |
| 55–59 | 0.7 | 0.7 | 2.8 | 4.4 | 1.0 | 1.0 | 0.8 | 0.9 | 2.4 | 3.5 | 1.2 | 1.1 |
| 60–64 | 0.8 | 0.8 | 3.0 | 4.6 | 1.1 | 1.0 | 0.8 | 0.9 | 2.0 | 3.2 | 1.2 | 1.0 |

| Age | Bachelor's degree | | | | | | Advanced degree | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Men | Women | Total | White | Black | Hispanic | Men | Women |
| 20–24 | — | — | — | — | — | — | — | — | — | — | — | — |
| 25–29 | 0.5 | 0.6 | 1.2 | 1.6 | 0.7 | 0.7 | 0.2 | 0.3 | 0.6 | 0.7 | 0.4 | 0.3 |
| 30–34 | 0.5 | 0.6 | 1.2 | 1.6 | 0.7 | 0.7 | 0.3 | 0.3 | 0.5 | 1.0 | 0.4 | 0.4 |
| 35–39 | 0.5 | 0.6 | 1.4 | 1.9 | 0.7 | 0.7 | 0.3 | 0.4 | 0.9 | 1.2 | 0.5 | 0.4 |
| 40–44 | 0.6 | 0.6 | 1.6 | 2.0 | 0.8 | 0.8 | 0.4 | 0.5 | 1.0 | 1.3 | 0.6 | 0.5 |
| 45–49 | 0.6 | 0.7 | 1.8 | 2.2 | 0.9 | 0.8 | 0.4 | 0.5 | 1.1 | 1.4 | 0.7 | 0.5 |
| 50–54 | 0.6 | 0.7 | 1.7 | 2.4 | 1.0 | 0.8 | 0.4 | 0.5 | 1.1 | 1.3 | 0.7 | 0.5 |
| 55–59 | 0.6 | 0.7 | 1.7 | 2.5 | 1.0 | 0.8 | 0.4 | 0.5 | 1.0 | 1.7 | 0.7 | 0.5 |
| 60–64 | 0.6 | 0.7 | 1.2 | 2.3 | 1.0 | 0.7 | 0.4 | 0.5 | 0.8 | 1.6 | 0.7 | 0.4 |

—Age group is too young for meaningful estimate of attainment at this level.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Table 23-1 Percentage of population who have completed secondary and higher education, by sex, age, and country: 1991

| Country | Both sexes: Secondary education | Both sexes: Higher education | Male: Secondary education | Male: Higher education | Female: Secondary education | Female: Higher education |
|---|---|---|---|---|---|---|
| | | | **25–64 years old** | | | |
| **Large countries** | | | | | | |
| United States | 83.3 | 23.6 | 82.8 | 26.0 | 83.7 | 21.3 |
| Japan* | 69.7 | 13.3 | 70.9 | 21.5 | 68.5 | 5.2 |
| Germany | 81.8 | 11.2 | 89.4 | 14.5 | 74.1 | 7.8 |
| United Kingdom | 65.3 | 9.6 | 71.6 | 12.4 | 59.2 | 6.8 |
| France | 50.5 | 9.7 | 54.6 | 10.8 | 46.6 | 8.7 |
| Italy | 28.2 | 6.1 | 30.3 | 7.0 | 26.2 | 5.2 |
| Canada | 75.7 | 16.7 | 75.5 | 18.7 | 75.9 | 14.8 |
| **Other countries** | | | | | | |
| Australia | 55.7 | 10.1 | 63.0 | 12.3 | 48.3 | 8.0 |
| Austria | 67.3 | 6.7 | 77.4 | 8.0 | 57.3 | 5.4 |
| Belgium | 43.2 | 9.6 | 45.4 | 12.5 | 40.9 | 6.6 |
| Denmark | 59.7 | 12.1 | 63.7 | 12.8 | 55.6 | 11.4 |
| Finland | 59.9 | 9.9 | 59.8 | 11.6 | 60.1 | 8.3 |
| Ireland | 40.2 | 8.0 | 37.4 | 9.5 | 43.0 | 6.5 |
| Netherlands | 56.3 | 6.2 | 62.5 | 8.5 | 49.9 | 3.8 |
| New Zealand | 55.6 | 10.2 | 62.1 | 12.5 | 49.4 | 7.9 |
| Norway | 79.1 | 12.3 | 80.2 | 14.7 | 78.1 | 10.0 |
| Portugal* | 7.8 | 4.0 | 7.5 | 4.7 | 8.1 | 3.3 |
| Spain | 21.8 | 9.9 | 24.7 | 10.7 | 19.1 | 9.1 |
| Sweden | 69.1 | 13.0 | 68.2 | 13.9 | 70.1 | 12.1 |
| Switzerland | 80.7 | 7.0 | 86.8 | 9.6 | 74.6 | 4.5 |
| | | | **25–34 years old** | | | |
| **Large countries** | | | | | | |
| United States | 86.1 | 23.7 | 85.7 | 23.5 | 86.5 | 23.8 |
| Japan* | 90.6 | 22.9 | 89.3 | 34.2 | 91.8 | 11.5 |
| Germany | 89.3 | 11.5 | 91.7 | 12.7 | 86.7 | 10.3 |
| United Kingdom | 79.2 | 11.7 | 80.7 | 13.6 | 77.6 | 9.8 |
| France | 65.9 | 11.6 | 67.3 | 11.7 | 64.5 | 11.5 |
| Italy | 43.1 | 6.6 | 42.3 | 6.7 | 43.8 | 6.4 |
| Canada | 86.0 | 17.5 | 84.6 | 18.0 | 87.3 | 17.1 |
| **Other countries** | | | | | | |
| Australia | 63.8 | 12.7 | 67.7 | 13.6 | 60.0 | 11.8 |
| Austria | [illegible]9.0 | 23.7 | 85.7 | 23.5 | 86.5 | 23.8 |
| Belgium | 57.8 | 13.0 | 56.5 | 14.8 | 59.1 | 11.1 |
| Denmark | 71.5 | 11.9 | 70.7 | 11.5 | 72.3 | 12.3 |
| Finland | 81.0 | 11.1 | 79.1 | 12.2 | 82.9 | 10.0 |
| Ireland | 54.4 | 9.1 | 49.6 | 9.5 | 59.1 | 8.6 |
| Netherlands | 66.7 | 6.9 | 67.1 | 8.5 | 66.4 | 5.2 |
| New Zealand | 58.9 | 11.7 | 64.4 | 13.4 | 53.6 | 10.2 |
| Norway | 88.3 | 12.1 | 87.2 | 12.3 | 89.3 | 11.9 |
| Portugal | 12.6 | 5.9 | 11.0 | 5.9 | 14.2 | 6.0 |
| Spain | 40.2 | 16.3 | 40.7 | 14.9 | 39.7 | 17.8 |
| Sweden | 84.0 | 12.1 | 82.4 | 12.4 | 85.7 | 11.9 |
| Switzerland | 87.6 | 8.3 | 90.3 | 10.5 | 84.9 | 6.1 |

## Table 23-1 Percentage of population who have completed secondary and higher education, by sex, age, and country: 1991—Continued

| Country | Both sexes |  | Male |  | Female |  |
|---|---|---|---|---|---|---|
|  | Secondary education | Higher education | Secondary education | Higher education | Secondary education | Higher education |
|  |  |  | **35–44 years old** |  |  |  |
| **Large countries** |  |  |  |  |  |  |
| United States | 87.7 | 27.5 | 87.4 | 29.9 | 88.1 | 25.3 |
| Japan* | 77.0 | 14.5 | 77.0 | 23.6 | 77.0 | 5.4 |
| Germany | 87.0 | 14.8 | 91.9 | 18.5 | 81.9 | 11.0 |
| United Kingdom | 79.2 | 11.7 | 80.7 | 13.6 | 77.6 | 9.8 |
| France | 68.7 | 11.8 | 75.4 | 15.1 | 62.1 | 8.5 |
| Italy | 55.5 | 11.2 | 59.7 | 12.1 | 51.4 | 10.4 |
| Canada | 81.9 | 19.8 | 81.8 | 21.8 | 82.1 | 17.9 |
| **Other countries** |  |  |  |  |  |  |
| Australia | 61.5 | 12.7 | 69.1 | 15.7 | 53.9 | 9.8 |
| Austria | 70.1 | 8.9 | 78.9 | 9.9 | 61.3 | 7.9 |
| Belgium | 48.5 | 10.8 | 50.2 | 13.8 | 46.7 | 7.8 |
| Denmark | 63.3 | 14.9 | 67.0 | 15.1 | 59.4 | 14.6 |
| Finland | 66.7 | 12.2 | 65.7 | 13.7 | 67.8 | 10.6 |
| Ireland | 41.1 | 9.1 | 39.2 | 11.2 | 43.1 | 7.1 |
| Netherlands | 59.4 | 7.8 | 66.3 | 10.8 | 52.2 | 4.8 |
| New Zealand | 58.2 | 12.2 | 64.8 | 14.9 | 51.8 | 9.6 |
| Norway | 83.4 | 15.7 | 83.6 | 19.1 | 83.1 | 12.3 |
| Portugal* | 9.6 | 4.7 | 9.5 | 5.6 | 9.6 | 3.9 |
| Spain | 23.2 | 11.2 | 27.2 | 12.5 | 19.3 | 10.0 |
| Sweden | 77.1 | 16.2 | 75.5 | 17.0 | 78.8 | 15.3 |
| Switzerland | 84.0 | 8.0 | 89.7 | 10.6 | 78.2 | 5.3 |
|  |  |  | **45–54 years old** |  |  |  |
| **Large countries** |  |  |  |  |  |  |
| United States | 81.2 | 23.2 | 81.0 | 28.1 | 81.4 | 18.7 |
| Japan* | 59.6 | 9.1 | 62.4 | 15.8 | 56.9 | 2.5 |
| Germany | 80.0 | 10.9 | 88.7 | 15.4 | 71.1 | 6.1 |
| United Kingdom | 57.7 | 7.6 | 66.6 | 10.9 | 48.9 | 4.4 |
| France | 44.9 | 9.8 | 50.5 | 11.5 | 39.4 | 8.0 |
| Italy | 20.0 | 5.0 | 23.7 | 6.4 | 16.4 | 3.6 |
| Canada | 67.9 | 16.4 | 68.8 | 20.1 | 67.1 | 12.7 |
| **Other countries** |  |  |  |  |  |  |
| Australia | 53.5 | 8.5 | 62.6 | 11.2 | 43.9 | 5.6 |
| Austria | 63.3 | 5.1 | 75.1 | 7.9 | 51.6 | 2.4 |
| Belgium | 37.0 | 8.1 | 41.5 | 12.1 | 32.5 | 4.2 |
| Denmark | 55.2 | 11.9 | 61.0 | 13.5 | 49.2 | 10.3 |
| Finland | 49.6 | 9.5 | 50.2 | 11.4 | 49.0 | 7.5 |
| Ireland | 32.9 | 7.3 | 30.8 | 9.4 | 35.0 | 5.2 |
| Netherlands | 49.7 | 5.4 | 58.4 | 7.9 | 40.7 | 2.8 |
| New Zealand | 51.0 | 7.4 | 58.1 | 10.0 | 43.8 | 4.8 |
| Norway | 75.3 | 12.6 | 77.4 | 15.9 | 73.0 | 9.1 |
| Portugal* | 6.1 | 3.0 | 6.4 | 4.2 | 5.8 | 1.9 |
| Spain | 12.4 | 6.5 | 16.2 | 8.5 | 8.7 | 4.6 |
| Sweden | 61.1 | 13.6 | 59.7 | 14.8 | 62.6 | 12.4 |
| Switzerland | 77.5 | 6.7 | 84.4 | 9.5 | 70.2 | 3.7 |

*1989 data.

NOTE: In the United States completing secondary education is defined as completing high school; completing higher education is defined as completing 4 or more years of college.

SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, International Indicators Project.

## Table 24-1 Percentage of 17-year-olds reporting being in academic/college prep, vocational/technical, and general programs, by type of school: 1982, 1986, and 1990

| Year | Public | | | Private | | |
|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 41.4 | 13.1 | 45.6 | 69.5 | 3.4 | 27.1 |
| 1986 | 50.2 | 10.6 | 39.2 | 83.7 | 1.3 | 14.9 |
| 1990 | 52.6 | 9.2 | 38.2 | 77.2 | 1.4 | 21.4 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-2 Percentage of 17-year-olds reporting being in academic/college prep, vocational/technical, and general programs, by level of parental education: 1982, 1986, and 1990

| Year | Less than high school | | | Graduated from high school | | | Some education after high school | | | Graduated college | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 22.9 | 18.1 | 59.0 | 34.6 | 14.5 | 50.9 | 49.6 | 10.9 | 39.4 | 61.7 | 7.2 | 31.2 |
| 1986 | 22.1 | 14.4 | 63.5 | 40.0 | 15.5 | 44.4 | 53.7 | 8.9 | 37.4 | 67.6 | 5.9 | 26.6 |
| 1990 | 27.9 | 20.2 | 51.9 | 41.1 | 10.6 | 48.3 | 57.1 | 9.2 | 33.7 | 68.2 | 4.2 | 27.6 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-3 Percentage of 17-year-olds reporting being in academic/college prep, vocational/technical, and general programs, by achievement quartiles: 1982, 1986, and 1990

| Year | Upper | | | Middle two | | | Lower | | |
|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 81.6 | 3.1 | 15.3 | 39.9 | 13.3 | 46.9 | 12.6 | 19.6 | 67.7 |
| 1986 | 86.7 | 1.4 | 11.9 | 50.5 | 10.6 | 38.9 | 17.3 | 18.8 | 63.9 |
| 1990 | 85.7 | 1.5 | 12.8 | 52.9 | 8.2 | 38.9 | 25.0 | 17.0 | 58.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-4 Standard errors for estimated percentages in first and second panel in text table for *Indicator 24*

| Year | Total | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 1.4 | 0.8 | 1.1 | 1.4 | 0.9 | 1.3 | 1.6 | 0.9 | 1.3 |
| 1986 | 1.4 | 0.9 | 1.5 | 2.0 | 1.5 | 1.8 | 1.7 | 1.1 | 1.9 |
| 1990 | 1.3 | 0.9 | 1.2 | 1.4 | 1.0 | 1.4 | 1.7 | 1.0 | 1.6 |

| Year | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 1.5 | 0.9 | 1.1 | 2.3 | 1.8 | 2.1 | 3.4 | 3.0 | 4.7 |
| 1986 | 1.4 | 0.8 | 1.5 | 3.4 | 3.5 | 2.9 | 3.5 | 4.0 | 3.7 |
| 1990 | 1.2 | 0.7 | 1.3 | 4.6 | 3.1 | 3.8 | 4.2 | 4.0 | 3.9 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-5 Standard errors for estimated percentages in table 24-1

| Year | Public | | | Private | | |
|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 1.2 | 0.9 | 1.0 | 2.7 | 0.7 | 2.5 |
| 1986 | 1.3 | 0.9 | 1.4 | 9.2 | 1.0 | 8.4 |
| 1990 | 1.4 | 0.9 | 1.2 | 5.8 | 0.6 | 5.7 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-6 Standard errors for estimated percentages in table 24-2

| Year | Less than high school | | | Graduated from high school | | | Some education after high school | | | Graduated college | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 2.1 | 1.6 | 1.7 | 1.4 | 1.0 | 1.6 | 1.7 | 1.0 | 1.5 | 1.2 | 0.6 | 1.0 |
| 1986 | 3.2 | 3.1 | 3.8 | 1.9 | 1.6 | 2.1 | 2.5 | 1.3 | 2.1 | 2.2 | 0.6 | 2.2 |
| 1990 | 2.9 | 3.2 | 2.8 | 1.9 | 1.5 | 2.1 | 2.0 | 1.2 | 1.9 | 1.8 | 0.6 | 1.5 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Table 24-7 Standard errors for estimated percentages in table 24-3

| Year | Upper | | | Middle two | | | Lower | | |
|---|---|---|---|---|---|---|---|---|---|
| | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General | Academic/ college prep | Vocational/ technical | General |
| 1982 | 1.1 | 0.4 | 0.9 | 1.6 | 1.1 | 1.2 | 1.0 | 1.1 | 1.4 |
| 1986 | 1.4 | 0.5 | 1.2 | 1.6 | 1.1 | 1.7 | 1.8 | 2.2 | 2.1 |
| 1990 | 1.5 | 0.3 | 1.4 | 1.5 | 0.8 | 1.3 | 2.0 | 2.4 | 2.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, Mathematics Almanac, 1982, 1986, and 1990.

## Course-taking in college

- **About two-thirds of baccalaureate students take a physical science course, over one-third take calculus, and over 4 in 10 take computer science. The average student earns 8 credit hours in physical science, 3 in calculus, and 4 in computer science.**
- **About one-third of American undergraduate students study a foreign language while in college.**
- **Five out of 10 bachelor's degree recipients take an economics course.**
- **Engineering majors earn substantially fewer credit hours in the humanities and social sciences than other majors do (supplemental table 28-2).**

*The subjects which bachelor's degree recipients study and variations in course-taking behavior by field of major provide insight into the depth and breadth of an undergraduate education. They shed light on such issues as: the scientific literacy of educated Americans; the exposure of American students to foreign language and culture; the economics education of educated voters and consumers; and the social science and humanities backgrounds of students specializing in technical fields.*

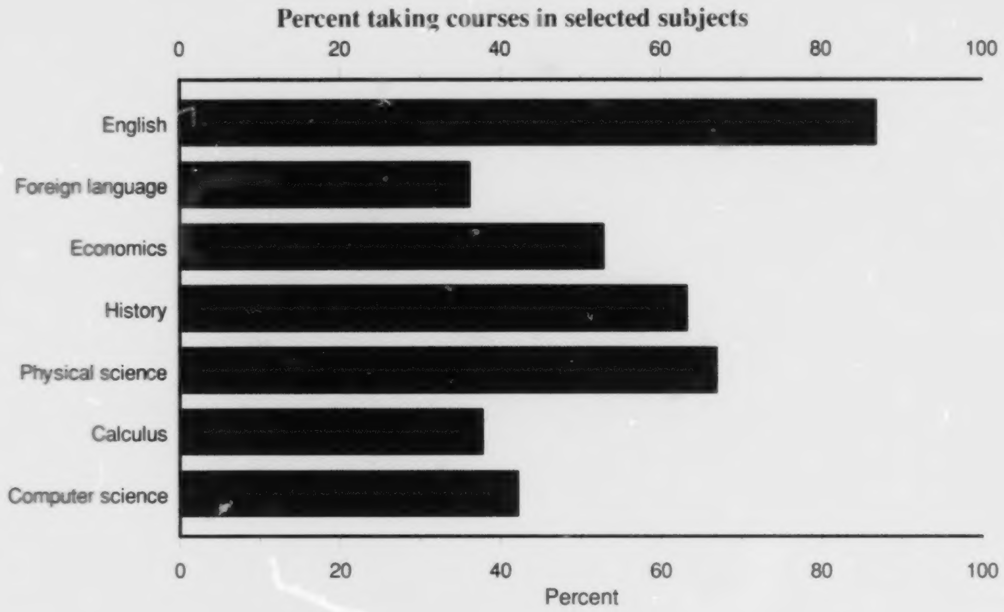
### Undergraduate course-taking among 1985-86 bachelor's degree recipients, by selected field of major

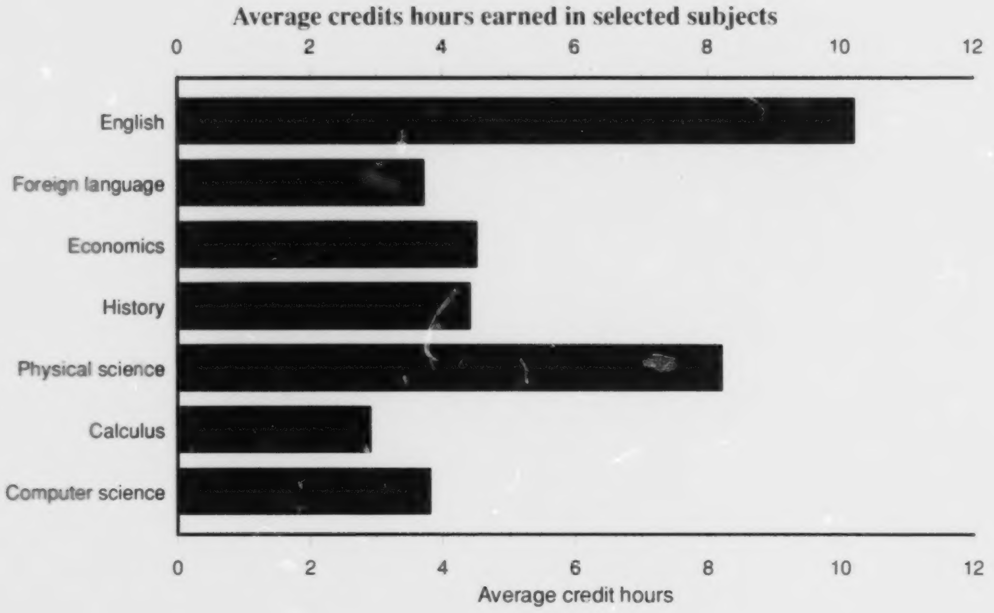
| | Major | | | | | | |
|---|---|---|---|---|---|---|---|
| Subject | Total | Humanities | Social and behaviorial sciences | Natural sciences | Engineering | Education | Business and management |
| | **Percent of students taking one or more courses in selected subjects** | | | | | | |
| English | 86.8 | 91.5 | 87.4 | 86.9 | 83.9 | 90.1 | 86.2 |
| Foreign language | 36.1 | 56.1 | 56.5 | 52.8 | 15.9 | 28.3 | 26.0 |
| Economics | 52.8 | 24.7 | 50.4 | 33.2 | 56.5 | 23.5 | 88.4 |
| Political science | 40.6 | 40.1 | 58.4 | 31.5 | 25.7 | 43.6 | 40.7 |
| Sociology/anthropology | 61.0 | 59.5 | 78.1 | 59.9 | 35.4 | 65.8 | 58.0 |
| History | 63.2 | 69.4 | 74.4 | 64.9 | 47.3 | 73.5 | 61.9 |
| Life sciences | 52.9 | 52.3 | 56.9 | 77.2 | 19.4 | 69.7 | 41.8 |
| Physical sciences | 66.9 | 54.7 | 66.4 | 94.1 | 92.9 | 67.4 | 53.0 |
| Calculus | 37.7 | 15.8 | 28.1 | 76.5 | 76.8 | 10.9 | 41.7 |
| Other mathematics | 70.2 | 46.5 | 60.9 | 72.7 | 88.3 | 75.0 | 78.3 |
| Computer science | 42.1 | 22.1 | 31.6 | 52.7 | 49.4 | 23.0 | 55.7 |
| Business and management | 53.7 | 28.0 | 43.1 | 24.7 | 36.2 | 21.1 | 99.2 |
| | **Average credit hours earned in selected subjects** | | | | | | |
| English | 10.2 | 21.4 | 9.6 | 8.2 | 6.5 | 10.9 | 8.7 |
| Foreign language | 3.7 | 9.7 | 6.1 | 5.1 | 1.1 | 2.4 | 2.0 |
| Economics | 4.5 | 1.3 | 6.9 | 1.8 | 2.7 | 1.1 | 9.1 |
| Political science | 2.9 | 2.1 | 8.9 | 1.4 | 1.1 | 2.1 | 2.0 |
| Sociology/anthropology | 4.4 | 3.7 | 9.9 | 3.3 | 1.7 | 3.8 | 3.1 |
| History | 4.4 | 4.7 | 9.0 | 3.8 | 2.4 | 5.2 | 3.6 |
| Life sciences | 5.5 | 2.7 | 3.8 | 22.6 | 1.2 | 5.4 | 2.1 |
| Physical sciences | 8.2 | 3.2 | 5.2 | 30.7 | 18.6 | 5.0 | 3.1 |
| Calculus | 2.9 | 0.8 | 1.5 | 7.1 | 8.9 | 0.8 | 2.1 |
| Other mathematics | 5.3 | 2.3 | 3.4 | 9.3 | 7.5 | 5.2 | 5.6 |
| Computer science | 3.8 | 0.9 | 1.3 | 3.9 | 2.8 | 0.9 | 3.5 |
| Business and management | 16.3 | 2.3 | 4.9 | 2.3 | 2.8 | 1.9 | 50.7 |

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses). Average credit hours in a subject are computed for all students, both those who took courses in the subject and those who did not.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Undergraduate course-taking among 1985–86 bachelor's degree recipients





NOTE: Average credit hours in a subject is computed for all students, both those who took courses in the subject and those who did not.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Field of study at the associate's degree level

- **One out of every three students receiving an associate degree in 1990 specialized in the arts and sciences, mainly liberal/general studies. The remainder pursued technical/professional fields.**
- **The proportion of associate's degree students specializing in the arts and sciences increased each year between 1985 and 1990 and, conversely, the proportion pursuing technical/professional fields declined. Much of the drop in technical/professional fields resulted from declining interest in business administrative support.**

*For many students, the associate's degree is a stepping-stone to the baccalaureate while, for others, it is an end degree providing job-related training. Data on major field of study provide insight into students' objectives.*

- **The most popular technical/professional fields are business and management, business administrative support, nursing, and engineering technologies. These four subjects made up 38 percent of all associate's degrees awarded in 1990.**
- **Men and women specialize to about the same degree in the arts and sciences and also in business and management. However, men are much more likely to study engineering technologies than women, and women are much more likely to study business administrative support and nursing than men.**

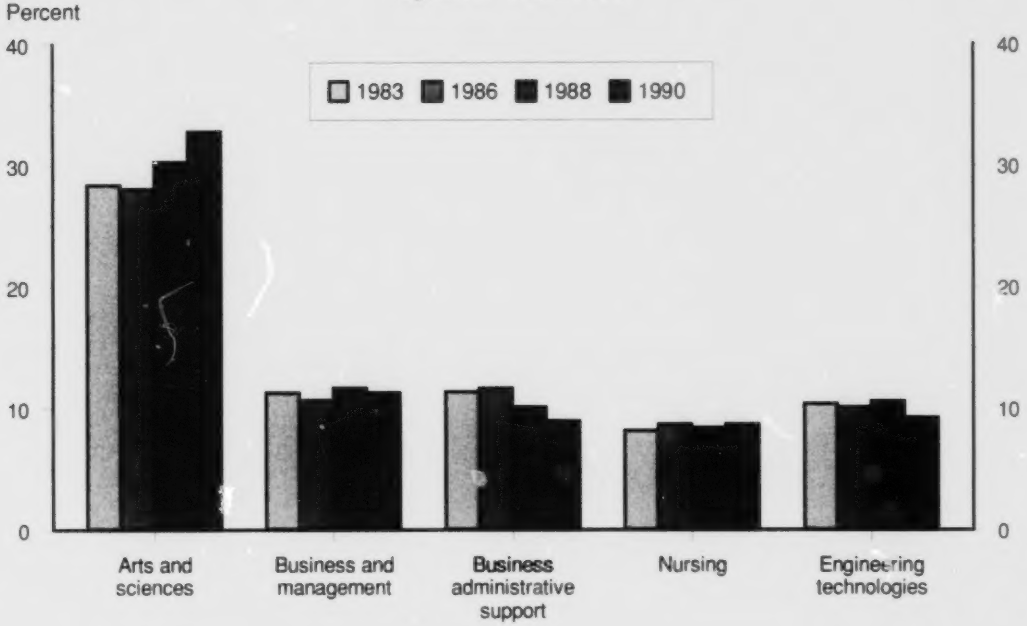
### Percentage distribution of associate's degrees conferred, by field of study, year, and sex

| | By year | | | | | | | | By sex 1990 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Field of study | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | Men | Women |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Arts and sciences | 28.4 | 27.7 | 27.1 | 28.1 | 28.8 | 30.3 | 31.5 | 32.8 | 32.5 | 33.0 |
| Technical/professional | 71.6 | 72.3 | 72.3 | 71.7 | 71.2 | 69.6 | 67.4 | 65.9 | 65.9 | 65.9 |
| Business and management | 11.3 | 11.1 | 10.8 | 10.7 | 11.3 | 11.7 | 11.4 | 11.3 | 11.0 | 11.5 |
| Business administrative support | 11.4 | 11.9 | 12.1 | 11.7 | 11.0 | 10.1 | 9.7 | 9.0 | 4.3 | 12.5 |
| Marketing and distribution | 3.4 | 3.4 | 3.4 | 3.7 | 3.9 | 3.5 | 3.3 | 3.1 | 1.7 | 4.1 |
| Health | 14.6 | 15.1 | 15.1 | 14.9 | 14.3 | 13.7 | 13.6 | 14.1 | 4.2 | 21.3 |
| Nursing | 8.2 | 8.9 | 8.9 | 8.7 | 8.6 | 8.4 | 8.2 | 8.7 | 1.7 | 13.8 |
| Other health | 6.4 | 6.2 | 6.2 | 6.3 | 5.7 | 5.4 | 5.4 | 5.4 | 2.5 | 7.5 |
| Technological | 13.7 | 14.4 | 14.7 | 13.9 | 13.6 | 13.6 | 12.8 | 11.7 | 23.3 | 3.3 |
| Engineering technologies | 10.4 | 10.2 | 10.8 | 10.1 | 10.3 | 10.6 | 10.1 | 9.3 | 19.9 | 1.7 |
| Other technological | 3.3 | 4.1 | 3.9 | 3.8 | 3.3 | 3.0 | 2.6 | 2.4 | 3.4 | 1.7 |
| Trade and industrial | 4.8 | 4.9 | 4.7 | 5.3 | 5.4 | 5.3 | 4.7 | 4.7 | 9.0 | 1.6 |
| Community services | 5.4 | 5.1 | 5.0 | 5.1 | 5.1 | 5.1 | 5.1 | 5.3 | 6.6 | 4.3 |
| Other technical/professional | 7.0 | 6.5 | 6.5 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.0 | 7.3 |
| Undistributed | 0.0 | 0.0 | 0.6 | 0.2 | 0.0 | 0.1 | 1.1 | 1.2 | 1.5 | 1.1 |

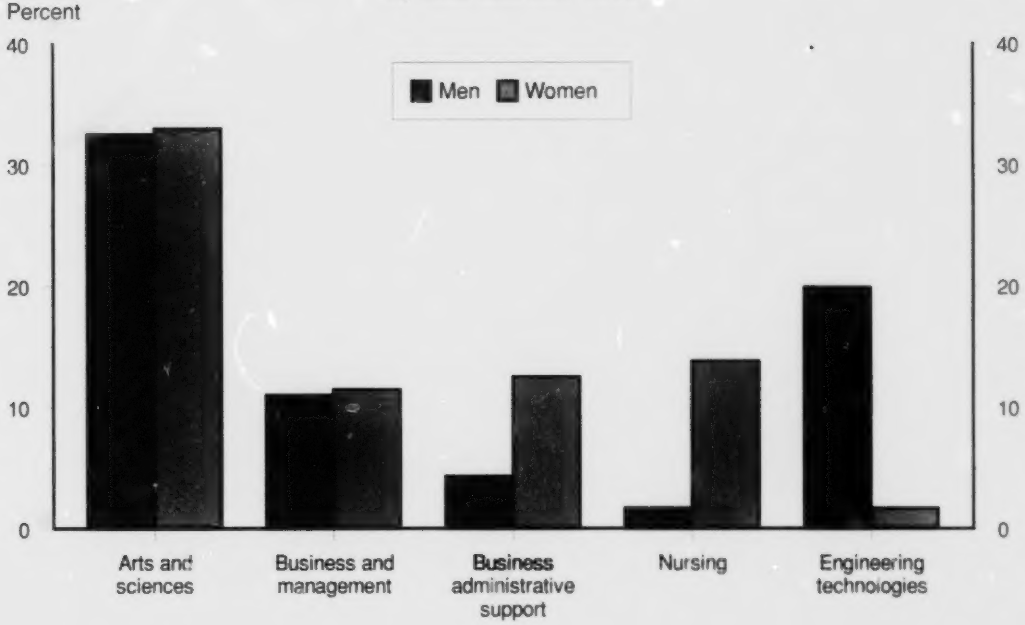
SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Percentage of associate's degrees conferred in selected fields

### By field: 1983–1990



### By field and sex: 1990



SOURCE: U.S Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

# Economic and Other Outcomes of Education

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Education is an investment in human skills. Like all investments, it involves both a cost and a return. The cost to the student of finishing high school is quite low, for it principally includes the earnings, which are low, of a 16– to 19-year-old who has not completed high school. The cost to the student of attending college is higher, but principally includes tuition, books, fees, and the earnings given up by not working or by working part time while in college.

In contrast, the returns come in many forms. Some are monetary, others personal, social, cultural, and more broadly economic. Some are directly related to the labor market, others are not. Some accrue to the individual, others to society and the nation in general. Among the returns related to the labor market are better employment opportunities, jobs that are less sensitive to general economic conditions, better opportunities to participate in employer-provided training, and higher earnings.

Other returns not related to the labor market and often attributed to education include greater interest and participation in civic affairs (*Indicator 32*, 1992), better health and longer life (*Indicator 35*), and reduced criminal behavior.

The costs and returns of investing in postsecondary education change over time,[1] which affects the incentive for individuals to participate. Measures presented in this section illuminate changes in the rewards to finishing high school (or conversely, the penalties of not finishing) and changes in the rewards of investing in postsecondary education.

**Penalties of Not Graduating From High School**
These indicators suggest some general conclusions regarding the labor market penalties of not finishing high school. The immediate difficulty of making the transition from full-time school attendance to full-time work appears much greater for those who leave school before finishing high school. In October 1991, of young people 16- to 24-years-old who had left high school *during the previous year* without finishing, only 37 percent were employed (down from 47 percent the year before). In contrast, of those who had graduated from high school in 1991 and did not enroll in college, 60 percent were employed (down from 68 percent the year before) (*Indicator 30*). Among 1989-90 college graduates, only 4 percent were unemployed and another 3 percent were not in the labor force nor in school in 1991.[2]

In time, some of the problems of making the transition from school to the workforce are solved. For example, of males who graduated from high school in 1991 and did not enroll in college the following October, 62 percent were employed (Table 30-1). In March 1992, among male high school graduates without further postsecondary education, the employment rate was 77 and 83 percent among those 20–24 and 25–29 years old, respectively (*Indicator 31*). This suggests that as high school graduates who do not go on to college get older, the percentage employed rises. Nevertheless, how long it takes to solve the initial transition-to-work problem is an indication of its difficulty.

Along with lower employment rates, among those who do find work during the year, earnings are lower for those with less education. During 1991, the earnings penalty of not finishing high school (average earnings of these compared to average earnings of those finishing and not continuing on to college) was an average of 30 and 32 percent for white and black males, respectively. The earnings penalty was larger for females—37 and 47 percent for whites and blacks, respectively (*Indicator 32*).

An often cited difference between the education system in the U.S. and other countries is the availability of opportunities here to return to the education system. The General Educational Development (GED) Examination and other means of obtaining a high school equivalency certificate are important examples of this. In fact, a substantial fraction of high school completions are through the GED program. In 1992, about 471,000 credentials were issued by the GED program (compared to 2,263,000 diplomas issued by public high schools).[3]

There are significant differences in the backgrounds of people who finish high school the traditional way, those who drop out and later earn a GED, and those who drop out and do not return to complete high school. So differences in outcomes among these groups should not be attributed solely to differences in their education. Furthermore, within groups with the same level of educational attainment there are large differences in economic outcomes depending on the age at which they completed high school. For example, in 1990 among male 25- to 33-year-olds with a high school diploma with no more than 2 years of college attendance, median annual earnings of those who graduated before age 20 was 27 percent higher than those who graduated at age 20 or older. Among high school GED graduates, the difference between those completing before age 20 and at 20 or older was 13 percent. Among females (but not males), median earnings for those who returned and completeed high school by age 20 or older or through the GED were higher than those who had not completed high school (54 and 36 percent, respectively) (*Indicator 34*).

**Rewards of Graduating From College**

The ratio of average annual earnings of college graduates to those of high school graduates provides an indication of the financial incentive to attend college. In 1991, for white males 25–34 years old, the college premium for earnings was 47 percent. For black males of the same age group, the college premium was even larger—62 percent (*Indicator 32*).

While there is a substantial earnings premium for graduating from college, there are great differences among college graduates who choose different fields of study (*Indicator 33*). Computer science and engineering majors earn the highest starting salaries—41 percent above the average across all fields among 1990 graduates. Humanities and education majors earned the lowest starting salaries—14 and 12 percent below the average, respectively.

**Rewards of Education for Females**

Generally, a higher percentage of males than females were employed. However, the difference between males and females is smaller at higher levels of education. For example, in March 1992, 68 percent of males, 25 to 29 years old, who had started but not completed high school were employed compared to 40 percent of females—a difference of 28 percentage points. However, 89 percent of males who had a bachelor's degree or higher were employed compared to 85 percent of females—a difference of only 4 percentage points.

Generally, median earnings of workers are higher for males than females. However, among females the percentage difference between the median earnings of workers who are high school graduates and workers with other levels of education was larger than among males. That is, the penalty for not finishing high school and the premium for attending some college or earning a bachelor's degree is larger (in percentage terms) for females than for males (*Indicator 32*).

**Health**

There is a strong positive relationship between indicators of a person's health and educational attainment. First, persons with more education appear to have better health knowledge, behaviors, and conditions. For example, those with more education were more likely to be aware that high blood pressure increases the chance of getting heart disease, were less likely to be 20 percent or more above the desirable body weight, were more likely to exercise or play sports regularly, were less likely to smoke cigarettes, and were less likely to be exposed to a job-related health hazard (Table 39-4). Second, persons with more education appear to be healthier—they were less likely to be in poor health (as assessed by themselves or members of their household). Those with more education were less likely to be limited in their activity due to a chronic condition, and finally, they were more likely to be covered by either private health insurance or Medicare (*Indicator 35*).

NOTES:

1. See Murphy, Kevin and Finis Welch. "Wage Premiums for College Graduates: Recent Growth and Possible Explanations." *Educational Researcher*, May 1989 for a more detailed presentation of changes between 1964 and 1986 in the relative earnings of workers with different levels of education and experience by sex and race.

2. U.S. Department of Education, National Center for Education Statistics, *Occupational and Educational Outcomes of Recent College Graduates 1 Year After Graduation: 1991*, April 1993.

3. U.S. Department of Education, National Center for Education Statistics, *Digest of Educational Statistics, 1992*, table 95. American Council on Education, GED Testing Service, *1991 Statistical Report*, table 3.

## Transition from high school to work

- **Fewer than half of recent high school dropouts had a job in October 1991. Recent high school graduates not enrolled in college fared better—60 percent had jobs. However, 40 percent were either unemployed or not looking for work.**
- **Between 1973 and 1991, white high school dropouts were more likely to be employed than black high school graduates not enrolled in college.**
- **Employment rates for both high school graduates and dropouts decreased more than 10 percent from 1989 to 1991, reflecting the impact of a slowing economy on school leavers as they make the transition from school to work.**

*The transition from high school to work can be difficult. Without prior job experience or specialized training, school leavers may find it difficult to find jobs, and they may be dissatisfied with those that they do find. The employment rate among school leavers, both those who have not finished high school and those who have but have not gone on to college, is an indication of the ease of making the transition.*

### Employment rate for recent high school dropouts and high school graduates not enrolling in college, by race/ethnicity: Selected years 1960–1991

| | Recent high school graduates | | | | Recent high school dropouts | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1960 | 65.0 | — | — | — | 50.9 | — | — | — |
| 1962 | 68.3 | — | — | — | 40.4 | — | — | — |
| 1964 | 63.4 | — | — | — | 41.6 | — | — | — |
| 1966 | 64.9 | — | — | — | 51.4 | — | — | — |
| 1968 | 67.3 | — | — | — | 50.0 | — | — | — |
| 1970 | 63.2 | — | — | — | 44.7 | — | — | — |
| 1972 | 70.1 | — | — | — | 46.0 | — | — | — |
| 1973 | 70.7 | 74.9 | 49.8 | (*) | 51.5 | 55.1 | 43.9 | (*) |
| 1974 | 69.1 | 72.9 | 45.9 | (*) | 48.1 | 53.9 | 35.9 | (*) |
| 1975 | 65.1 | 68.9 | 36.9 | (*) | 41.4 | 46.2 | 22.0 | 46.8 |
| 1976 | 68.9 | 73.2 | 38.5 | (*) | 43.5 | 49.7 | 20.8 | (*) |
| 1977 | 71.9 | 76.1 | 43.3 | 65.8 | 50.2 | 56.6 | 34.5 | (*) |
| 1978 | 74.0 | 79.1 | 45.9 | 69.2 | 49.7 | 54.2 | 41.1 | 50.7 |
| 1979 | 72.4 | 76.4 | 44.1 | 69.4 | 48.8 | 54.2 | 27.6 | (*) |
| 1980 | 68.9 | 74.6 | 35.0 | (*) | 43.7 | 51.2 | 20.8 | 47.7 |
| 1981 | 65.9 | 73.0 | 31.5 | (*) | 40.5 | 51.2 | 11.5 | 50.0 |
| 1982 | 60.4 | 68.5 | 29.4 | 43.9 | 36.8 | 44.5 | 16.4 | (*) |
| 1983 | 62.9 | 69.8 | 34.9 | (*) | 43.2 | 49.4 | 26.5 | (*) |
| 1984 | 64.0 | 70.7 | 44.8 | 49.0 | 42.9 | 51.3 | 23.8 | 35.7 |
| 1985 | 62.0 | 71.0 | 34.4 | (*) | 43.5 | 50.0 | 29.3 | 37.6 |
| 1986 | 65.2 | 71.5 | 41.0 | 64.9 | 46.1 | 50.5 | 31.6 | 46.4 |
| 1987 | 68.9 | 75.3 | 46.9 | 53.8 | 41.2 | 48.1 | 26.1 | (*) |
| 1988 | 71.9 | 78.2 | 55.5 | 57.1 | 43.5 | 47.6 | 17.3 | 55.4 |
| 1989 | 71.9 | 77.6 | 53.5 | 49.3 | 47.1 | 57.6 | 26.3 | (*) |
| 1990 | 67.5 | 75.1 | 44.9 | (*) | 46.7 | 56.2 | 30.5 | (*) |
| 1991 | 59.6 | 67.0 | 32.5 | (*) | 36.9 | 38.2 | 24.7 | (*) |

— Not available.

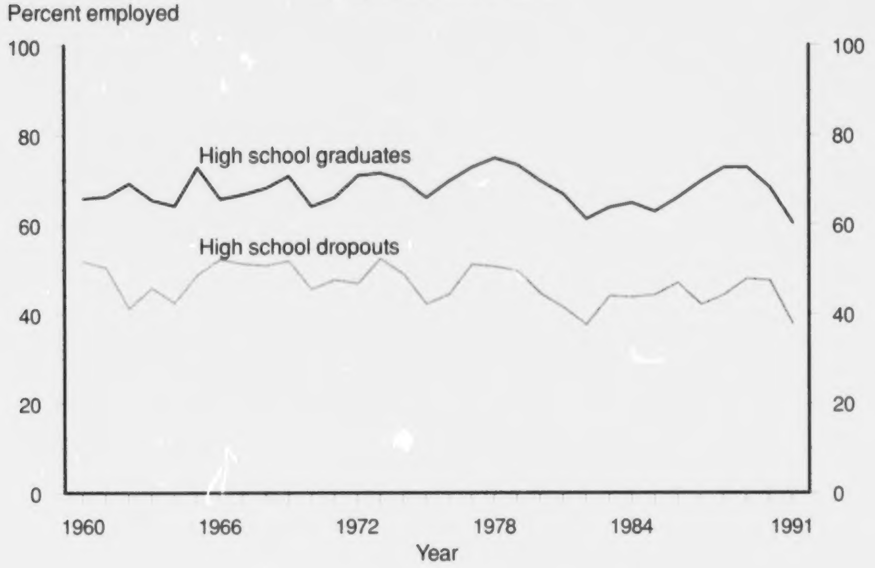
* Too few sample observations for a reliable estimate.

NOTE: Recent high school graduates are individuals who graduated during the survey year. Recent high school dropouts are individuals who were not high school graduates, who were in school a year earlier, but who were not enrolled during the survey year month.

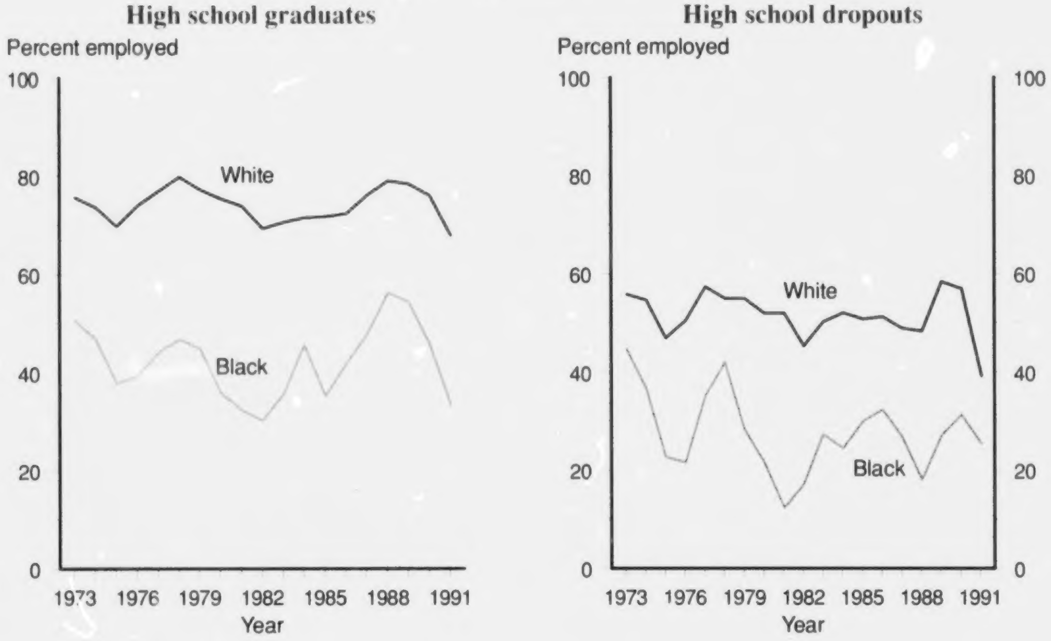
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940–1987*, and tabulations based on the October Current Population Surveys.

## Employment rate of recent high school dropouts and high school graduates not enrolling in college: 1960–1991

**By graduation status**



**By race**


High school graduates

High school dropouts

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940-1987*, and tabulations based on the October Current Population Surveys.

## Employment of young adults

- **Among males 25 to 29 years old, employment rates did not differ substantially between groups with a high school diploma and those with higher educational attainment. For those who had not completed high school, however, the employment rate was substantially lower.**
- **Among females 25 to 29 years old, employment rates increased markedly with each higher level of educational attainment. The difference between those who had not finished high school and those who had was particularly large (40 percent versus 66 percent).**
- **Among males ages 30 to 64, employment rates for those with a bachelor's degree were higher than for those with only some college.**
- **Among females ages 30 to 54, employment rates increased with each higher level of educational attainment as they did among females 25 to 29 years old.**

*The percentage of a population group with jobs is influenced by a variety of factors. Some influence the willingness of employers to offer jobs to individuals with different levels of education at the going wage rate, and others influence the willingness of these individuals to take jobs at the going wage rate. The higher the proportion employed, the better are their labor market opportunities relative to other things they could do, and vice versa. To a certain extent employment rates for older groups is an indication of what younger groups may experience when they become older. However, labor market opportunities were different when these older groups were beginning their work lives than they are for today's young adults.*

**Percent of noninstitutional civilian population who are employed, by sex and educational attainment: March 1992**

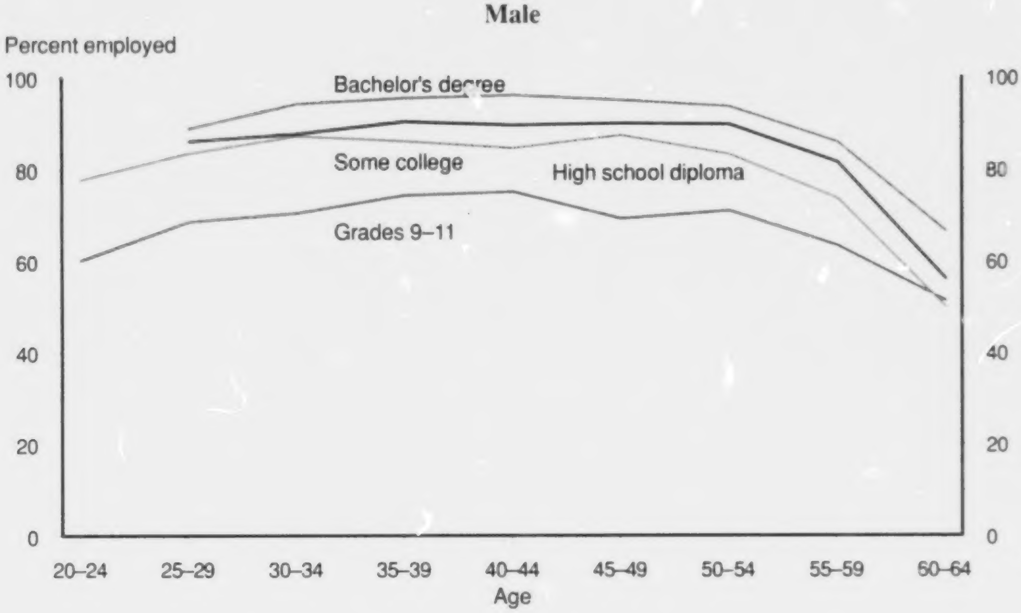
| | Male | | | | | Female | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree | Total | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree |
| 20-24 | 68.9 | 59.8 | 77.4 | — | — | 65.3 | 36.7 | 67.4 | — | — |
| 25-29 | 83.1 | 68.3 | 83.1 | 85.7 | 88.5 | 69.4 | 39.7 | 65.6 | 76.2 | 85.3 |
| 30-34 | 86.1 | 70.1 | 86.9 | 87.5 | 94.0 | 69.5 | 47.7 | 66.9 | 73.7 | 80.5 |
| 35-39 | 87.3 | 74.0 | 85.8 | 90.1 | 95.2 | 72.1 | 50.6 | 72.0 | 75.9 | 78.8 |
| 40-44 | 87.6 | 74.8 | 84.3 | 89.3 | 95.7 | 75.5 | 52.8 | 74.6 | 78.5 | 85.1 |
| 45-49 | 86.7 | 68.9 | 87.1 | 89.6 | 94.6 | 72.7 | 53.1 | 71.7 | 78.0 | 86.0 |
| 50-54 | 83.4 | 70.7 | 82.9 | 89.4 | 93.3 | 65.7 | 48.7 | 66.1 | 74.0 | 80.0 |
| 55-59 | 73.9 | 63.0 | 73.2 | 81.1 | 85.5 | 54.7 | 39.7 | 58.0 | 57.9 | 73.0 |
| 60-64 | 52.1 | 51.0 | 49.5 | 55.8 | 66.1 | 34.9 | 29.4 | 36.2 | 39.9 | 48.0 |

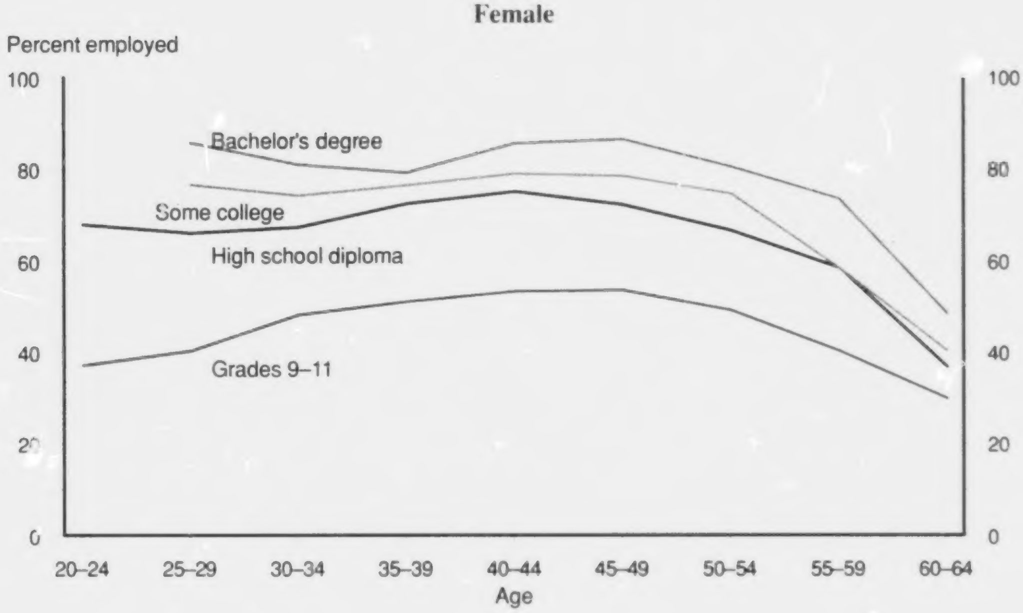
— Too few individuals of this age have completed this level of education.

NOTE: Many young persons, particularly those 16–19 years old and to a lesser extent those 20–24 years old were enrolled in school or college. Included in the total but not shown separately are those who have attained 8 or fewer years of schooling. Grades 9 to 11 includes those who have attended 12th grade but have not received a diploma; high school diploma includes those who have received an equivalency certificate; some college includes those who have received an associate's degree; bachelor's degree includes those who have received advanced degrees.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Percentage of population employed, by sex, educational attainment, and age: March 1992





SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Annual earnings of young adults

- **In 1991, among white male workers 25–34 years old, the earnings of college graduates were 47 percent greater than those of high school graduates, while those who had not completed high school earned 30 percent less.**
- **Generally, the earnings advantage of college graduates was greater for females than for males, that is, the percentage difference between earnings of college graduates and high school graduates was greater for females than for males.**
- **The earnings advantage of having a bachelor's degree was more than double the earnings advantage of having attended only some college. For example, among white female workers 25–34 years old, the earnings of college graduates were 88 percent greater than those of high school graduates and the earnings of those with some college were 32 percent greater than those of high school graduates.**

*Wages and salaries are influenced by many factors, including the employer's perception of the productivity and the availability of workers with different levels of education. They are also affected by economic conditions in the industries that typically employ workers with different levels of education.* Annual earnings are influenced by the number of weeks worked in a year and the usual hours worked each week. The ratio of annual earnings of high school dropouts or college graduates to those of high school graduates is affected by all these factors; it is a measure of the earnings disadvantage of not finishing high school and the advantage of completing college.

**Percentage difference between median annual earnings of wage and salary workers who are high school graduates and workers with other levels of educational attainment, by sex, race/ethnicity, type of worker, and age: 1991**

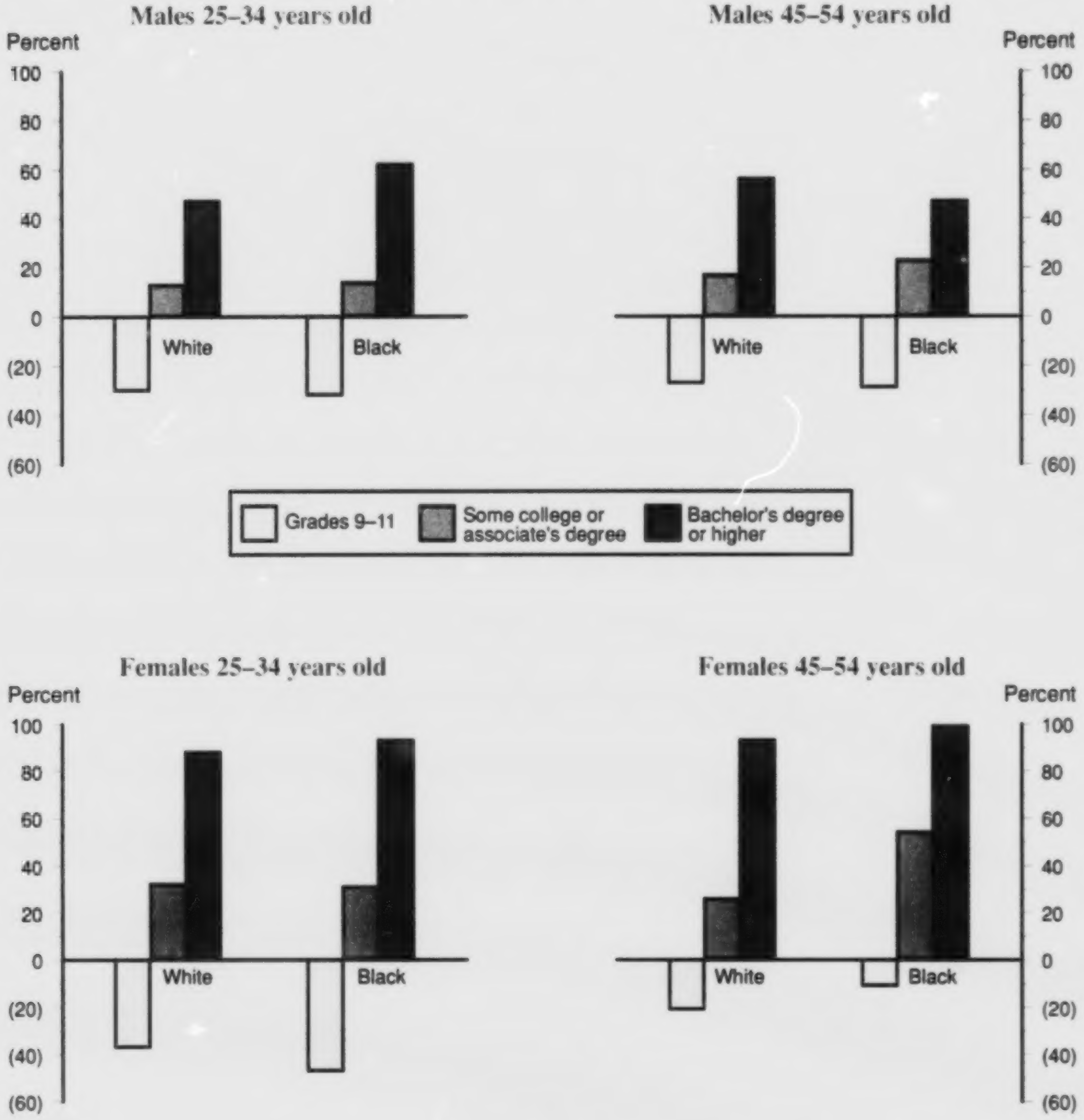
| Type of workers and educational attainment | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| | | | | | Ages 25 to 34 | | | |
| All workers | | | | | | | | |
| Grades 9 to 11 | (35) | (30) | (32) | (16) | (40) | (37) | (47) | (42) |
| Some college | 12 | 13 | 14 | 26 | 30 | 32 | 31 | 24 |
| Bachelor's degree | 54 | 47 | 62 | 62 | 88 | 88 | 93 | 71 |
| Full-time, full-year workers | | | | | | | | |
| Grades 9 to 11 | (20) | (15) | (22) | (14) | (29) | (29) | (34) | — |
| Some college | 18 | 13 | 25 | 35 | 18 | 19 | 16 | 18 |
| Bachelor's degree | 57 | 49 | 65 | 81 | 56 | 55 | 46 | 49 |
| | | | | | Ages 45 to 54 | | | |
| All workers | | | | | | | | |
| Grades 9 to 11 | (27) | (27) | (29) | — | (20) | (21) | (11) | — |
| Some college | 22 | 17 | 23 | 43 | 28 | 26 | 54 | — |
| Bachelor's degree | 62 | 56 | 47 | — | 93 | 93 | 99 | — |
| Full-time, full-year workers | | | | | | | | |
| Grades 9 to 11 | (29) | (24) | (32) | — | (22) | (25) | (15) | — |
| Some college | 16 | 14 | 25 | — | 24 | 22 | 42 | 18 |
| Bachelor's degree | 52 | 53 | 40 | — | 68 | 68 | 68 | — |

— Too few sample observations for a reliable estimate.

NOTE: Parentheses are used to indicate negative numbers. Grades 9 to 11 includes those who attended grade 12 but did not receive a diploma; high school includes those who received an equivalency certificate; some college includes those who have received an associate's degree; and bachelor's degree includes those who received advanced degrees. Included in the total but not shown separately are workers of other races, primarily Asians and American Indians.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

**Percentage difference between median annual earnings of all wage and salary workers who are high school graduates and workers with other levels of educational attainment: 1991**



NOTE: Y axis label: Percent above or below earnings of high school graduates of the same sex, race, and age.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Starting salaries of college graduates

- **Education, humanities, and social science majors receive salaries below the median for all college graduates.**
- **Engineering and computer science majors receive much higher starting salaries than other college graduates.**
- **The premium earned by engineering and computer science majors fluctuated during the 1977–90 period. It was highest in 1980.**
- **Following a period of decline, the starting salaries of education majors improved relative to those of all college graduates between 1984 and 1990.**
- **Throughout the 1977–90 decade, median starting salaries for business majors were higher than those for college graduates as a whole. However, the premium earned was much lower after 1984 than it had been during the early part of the period.**
- **The differences between median starting salaries for all college graduates and graduates in some fields narrowed between 1980 and 1990.**

*One of the factors college students use to choose a major is the pay that they anticipate receiving for their work when they graduate. Employers adjust what they pay new college graduates based on how valuable the graduates' skills will be to the firm and on the difficulty employers have finding qualified individuals to fill the jobs. Differences across fields in starting salaries of college graduates provide indications of those fields which are more valuable to employers and the fields in which there are too few graduates compared to the requirements of employers. Changes over time in these differences provide insights into the responsiveness of the education system and young people to changes in labor market conditions.*

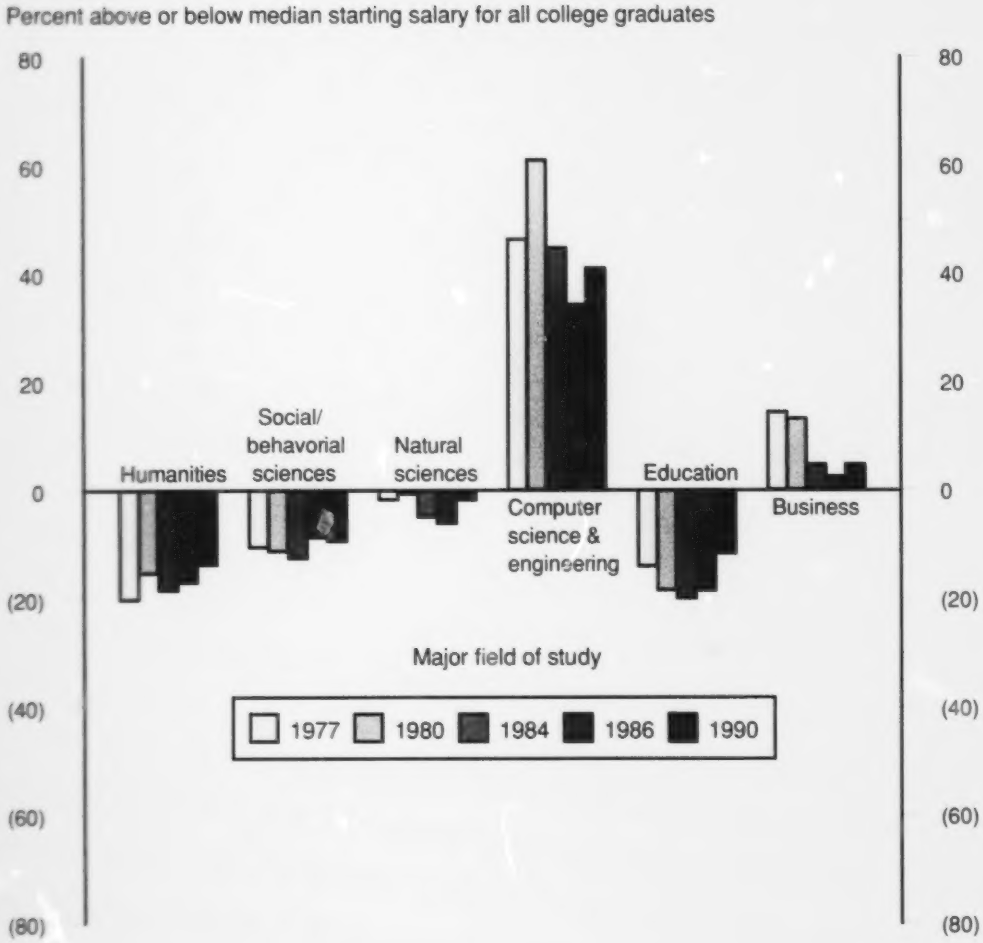
### Percentage difference between median starting salaries for all college graduates and college graduates in particular fields of study: Selected years of graduation 1977–1990

| | Year of graduation | | | | |
|---|---|---|---|---|---|
| Field of study | 1977 | 1980 | 1984 | 1986 | 1990 |
| | Percent above or (below) median for all college graduates | | | | |
| Humanities | (20.3) | (15.4) | (18.6) | (17.1) | (13.8) |
| Social/behavioral sciences | (10.6) | (11.4) | (12.6) | ( 8.8) | ( 9.4) |
| Natural sciences | (1.8) | (0.8) | (5.0) | (6.2) | (1.8) |
| Computer science and engineering | 46.4 | 61.0 | 44.8 | 34.3 | 41.0 |
| Education | (14.1) | (18.6) | (20.1) | (18.6) | (11.7) |
| Business | 14.4 | 13.2 | 4.8 | 2.6 | 4.8 |
| Other | 2.8 | 6.8 | (1.3) | (2.9) | 2.2 |

NOTE: The data presented pertain to baccalaureate recipients who were working full-time and were not enrolled in school one year after graduation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Differences in median starting salaries of college graduates, by major field of study: Selected years of graduation 1977–1990



NOTE: The data presented in this indicator pertain to baccalaureate recipients who were working full-time and were not enrolled in school one year after graduation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduate surveys.

## Education and labor market outcomes of high school diploma and GED graduates

- **By 1990, young adults with a GED were more likely to have attended either a third or fourth year of high school than other dropouts.**
- **For both males and females, young adults who did not attain a high school diploma before age 20 (as a group) did not do as well in the labor market as those who did attain it.**
- **Generally, females who took advantage of a second chance to complete high school had higher annual earnings than females who did not return to complete.**
- **Among young adult females, those who received a GED or high school diploma before age 20 were far more likely to be employed than those who did not complete.**

*Individuals who leave early can still complete high school, either by passing the General Education Development (GED) exam or by returning to school to complete requirements for the diploma. Differences in education and labor market outcomes across groups completing high school at different ages and by different means may be due to a variety of factors. First, they can be influenced by the same characteristics, circumstances, or experiences that influence whether a person leaves school early. Second they are affected by differences in the amount and quality of the education received. For an early school-leaver, an estimate of the value of completing high school is the difference between the outcomes of those who have either passed the GED or gone back to school and those who have not completed.*

**Education and labor market outcomes of 25- to 33-year-olds with no more than 2 years of college attendance, by high school completion status and age at time of completion: 1990**

| | Males | | | | | Females | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not-completed | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not-completed |
| | | | | | **Education outcomes** | | | | | |
| Average AFQT* percentile score in 1980 | 45 | 25 | 40 | 33 | 20 | 43 | 22 | 42 | 30 | 20 |
| Percent who attended: | | | | | | | | | | |
| 2nd year of high school | — | — | 96 | 94 | 84 | — | — | 97 | 93 | 84 |
| 3rd year of high school | — | — | 88 | 85 | 60 | — | — | 90 | 73 | 62 |
| 4th year of high school | — | — | 74 | 59 | 34 | — | — | 69 | 53 | 31 |
| 1st of college | 44 | 30 | 46 | 31 | 5 | 46 | 25 | 50 | 33 | 8 |
| 2nd year of college | 18 | 12 | 15 | 9 | 1 | 18 | 5 | 16 | 9 | 2 |
| Percent receiving: | | | | | | | | | | |
| Associate's degree | 5 | 2 | 5 | 1 | 0 | 6 | 3 | 1 | 0 | 1 |
| | | | | | **Labor market outcomes** | | | | | |
| Percent employed | 94 | 91 | 83 | 87 | 86 | 76 | 63 | 69 | 64 | 52 |
| Percent unemployed | 4 | 7 | 7 | 9 | 7 | 4 | 9 | 5 | 9 | 9 |
| Average weeks worked in 1990 | 48 | 46 | 36 | 39 | 41 | 37 | 29 | 35 | 30 | 23 |
| Average years on current job | 4 | 4 | 2 | 2 | 3 | 4 | 3 | 3 | 2 | 2 |
| Median annual earnings | 24,427 | 19,261 | 18,146 | 15,998 | 16,665 | 14,217 | 12,379 | 13,772 | 12,159 | 8,925 |
| Percent below the poverty line | 4 | 9 | 18 | 23 | 21 | 12 | 26 | 14 | 24 | 36 |

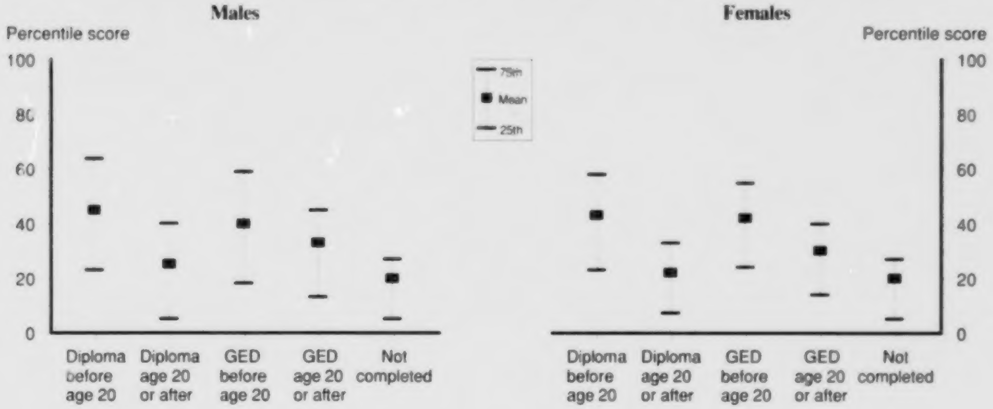
—Not applicable

*Scores on the Armed Forces Qualification Test (AFQT). The AFQT is a general measure of ability to benefit from training and a primary criterion of enlistment eligibility for the U.S. Armed Forces.

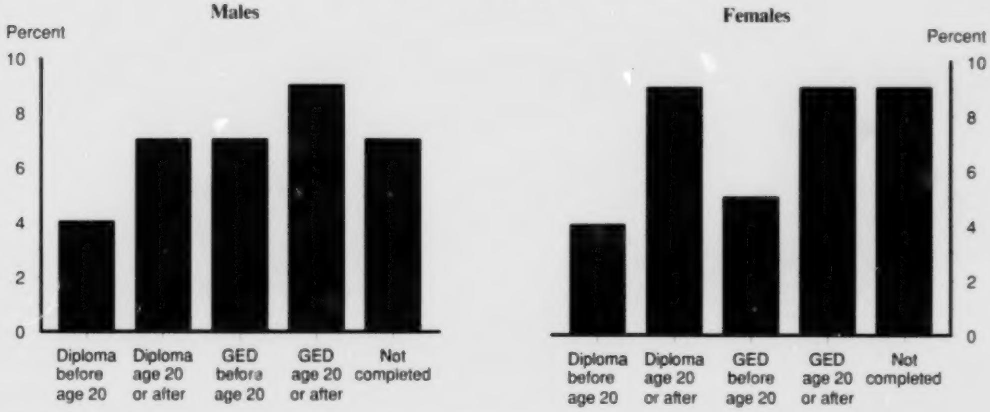
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth, 1990.

# Achievement and labor market outcomes of 25- to 33-year-olds with no more than 2 years of college attendance, by high school completion status and age at time of completion

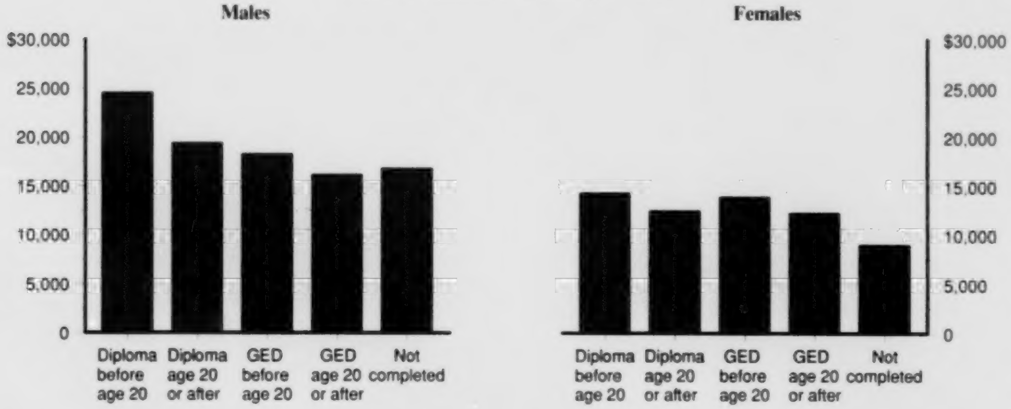
Distribution of percentile scores on Armed Forces Qualification Test: 1980



Percent unemployed: 1990



Median annual earnings: 1990



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth, 1990.

## Health characteristics of adults, by years of schooling

- **In 1989, adults with more education reported being healthier than those those with less education.**
- **Individuals with 4 or more years of college were less likely to limit their activity because of a chronic condition than those with less education.**
- **The percentage of 25- to 64-year-olds not covered by private health insurance or Medicare decreased with years of schooling completed. In 1989, persons not covered ranged from 38 percent for those with 9–11 years of schooling to 11 percent for those with 4 or more years of college.**
- **Generally, the higher the level of schooling completed, the smaller was the percentage of people who reported they smoked cigarettes in 1985 (supplemental table 35-4).**

*Education may affect an individual's health status by increasing knowledge about healthy behaviors, by choice of occupations, and by access to preventive care and treatment. Good health not only has social and financial consequences for the individual but also for society, which bears some of the economic burden of providing care and of lost productivity.*

### Percentage of population assessed by themselves or members of their household as being in fair or poor health, by years of schooling completed and age: 1989

| Age | Total * | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| 25 to 44 | 6.4 | 15.0 | 6.7 | 4.8 | 1.9 |
| 45 to 64 | 16.1 | 26.5 | 13.2 | 10.0 | 5.0 |

### Percentage of population with limited activity due to a chronic condition, by years of schooling completed and age: 1989

| Age | Total * | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| 25 to 44 | 10.0 | 16.4 | 10.0 | 9.5 | 6.3 |
| 45 to 64 | 22.2 | 32.1 | 19.2 | 18.8 | 13.2 |

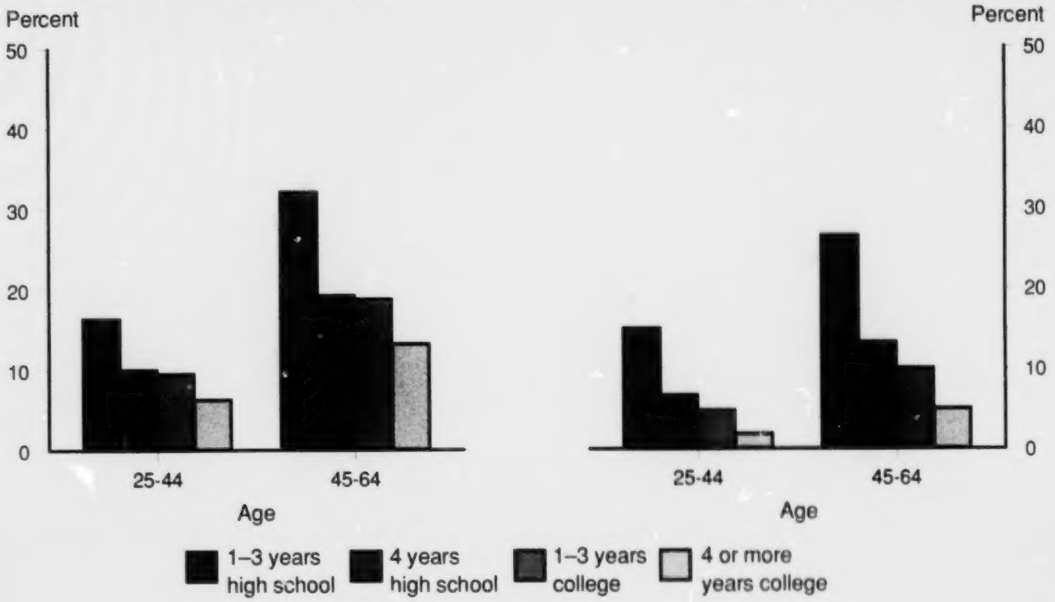
### Percentage of population not covered by private health insurance or Medicare, by years of schooling completed and age: 1982–1989

| Year | Total * | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| 1982 | 18.5 | 28.3 | 16.5 | 14.3 | 7.8 |
| 1984 | 19.7 | 33.0 | 18.3 | 15.8 | 7.3 |
| 1986 | 20.1 | 34.6 | 18.8 | 16.0 | 6.6 |
| 1989 | 22.8 | 38.4 | 22.2 | 17.8 | 10.8 |

* Includes individuals not separately reported with less than 9 years of schooling and unknown years of schooling.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1982–1989.

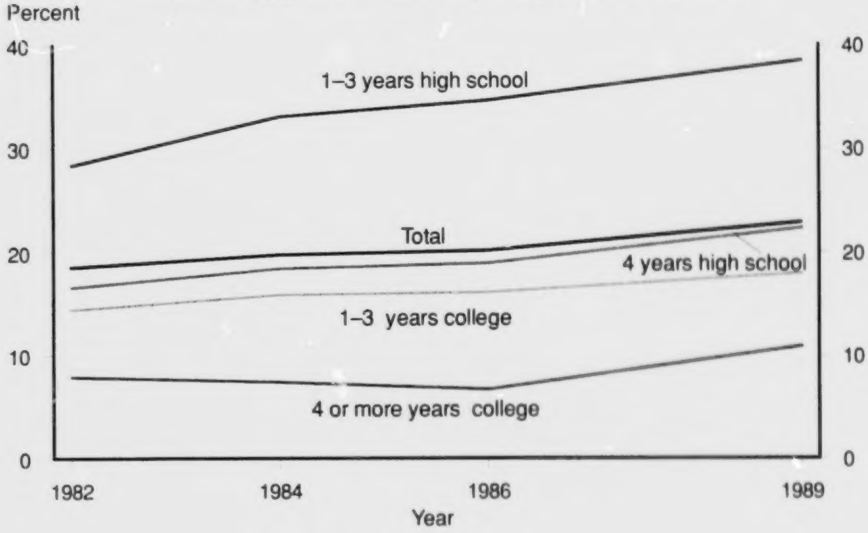
## Health characteristics of adults by years of schooling



Percentage with limited activity due to a chronic condition: 1989

Percentage assessed as being in fair or poor health: 1989

Percentage not covered by private health insurance or Medicare, by years of schooling completed: 1982–1989



SOURCE: National Center for Health Statistics, National Health Interview Survey, 1982–1989.

# Size, Growth, and Output of Educational Institutions

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The education system grows and contracts largely as a result of demographic changes in the population, but also in response to changing conditions in the society and economy. In turn, these changes in the education system influence major support industries, future entries to the labor force, and future economic activity. The indicators in this section provide some evidence of changes in the size of the education system.

**Enrollment**

Many people participate in the education system in the United States. In 1991, over 62 million people in the United States, almost 1 in 4, were enrolled in elementary and secondary schools, colleges, and universities. They include about 34 million students in kindergarten through grade 8, 13 million in grades 9 through 12, 6 million in 2-year colleges, and 9 million in 4-year colleges and universities (*Indicator 37* and Table 38-1).

Most students are enrolled in public educational institutions but a sizable fraction are enrolled in private institutions. The percentage of students enrolled in private schools is high for pre-K children (63 percent), but falls for older children (12 percent in grades K through 8, and 9 percent in grades 9 through 12, *Indicators 36* and *37*). In postsecondary education, the split between public and private institutions depends strongly on the type of institution—only 4 percent of enrollment at 2-year colleges but 32 percent of enrollment at 4-year colleges and universities is in private institutions (*Indicator 38*). Institutions with less-than-2-year programs are predominately private and for-profit.[1]

The amount of time spent in school has changed substantially in kindergarten and in higher education. Full-day kindergartens were much more prevalent in 1991 (43 percent of kindergarten students) than they were in 1972 (18 percent) (*Indicator 36*). Part-time undergraduates in colleges and universities were more prevalent in recent years (an average of 26 percent between 1987 and 1990) than they were two decades earlier (an average of 17 percent between 1967 and 1970) (Table 46-5, 1992). However, almost all of the increase in the percentage of undergraduates attending part time occurred between 1970 and 1977 and has remained fairly stable since 1977.

**Growth of Enrollment**

After the end of World War II, the number of births per year reached a peak of 4.3 million in 1957. The baby boom period between 1946 and 1964 was followed by a period of declining births which reached a low of 3.1 million in 1973. Since then the number of births has gradually risen, reaching 4.2 million in 1990.[2] These trends are reflected, with lags, in the growth and decline of enrollments. Between 1970 and 1984 total public school enrollment fell about 15 percent; from 1984 to 1991, it rose about 7 percent (*Indicator 37*).

Changes in the number of births are first felt in the elementary schools, and later in secondary schools. Enrollment in public schools in kindergarten through grade 8 declined throughout the 1970s, reaching a low point in 1984, and since has been rising (*Indicator 37*). Enrollment in public schools in grades 9 through 12 increased in the early 1970s, reaching a peak in 1976, and declined through 1990. It increased in the 1991–92 school year and is projected to continue increasing past the end of the century.

In higher education, the level of enrollment is less tied to the number of births than it is in elementary and secondary schools where enrollment is nearly universal. Total enrollment in higher education rose throughout the 1970s as would be expected while the number of high school graduates was rising. In the first half of the 1980s it remained stable with a small drop in 1984. Enrollment has risen each year since 1985 despite a decline in the number of high school graduates aged 20 to 24 (*Indicator 38*). Two factors account for the continued growth in enrollment: increasing enrollment rates among 16- to 24-year-olds (*Indicator 8*, 1992); and the increasing number of older students due to the aging of the baby boom cohorts.

Public 4-year colleges enroll twice as many students as private 4-year colleges—41 and 20 percent of all students in 1991. In 1991, 38 percent of enrollment at colleges and universities was at public 2-year colleges compared to 36 percent in 1981 and 29 percent in 1972. Enrollment in both 2-year and 4-year institutions increased about 16 percent between 1981 and

1991 and 4 percent between 1990 and 1991 (*Indicator 38*).

**Diplomas and Degrees**

Whereas enrollment is an indication of the size of the educational system, completions are one indication of what and how much the education system is producing. A diploma or degree awarded to an individual is an indication that the education system has helped make more knowledge and skill available in the economy and society. Public and private high schools and GED programs awarded 3 million diplomas and equivalency certificates in 1991 (Table 39-1).

At the undergraduate level, the two most common credentials are the associate's and bachelor's degrees. The number of associate's degrees, many of which are in occupationally specific fields, increased moderately during the 1980s after a period of rapid growth during the 1970s. In 1990, about 455,000 associate's degrees were awarded—13 percent more than in 1980 but about the same number as in 1985. The increase was about the same as the increase in total enrollment in higher education over the period. The number of bachelor's degrees awarded also grew throughout the 1980s. In 1990, 1.05 million bachelor's degrees were awarded—13 percent more than in 1980 (Table 39-1).

At the graduate level, master's degrees were the most numerous type of degree. In 1990, there were 324,000 awarded, in contrast to 71,000 first-professional degrees and 38,000 doctor's degrees. The distribution of type of degrees changed somewhat during the last half of the 1980s. Following years of negative or little growth, the number of doctor's degrees rose 16 percent between 1985 and 1990; the number awarded to U.S. citizens increased 8 percent; the number awarded to non-U.S. citizens increased 67 percent (*Indicator 42*). Conversely, after a long period of growth, the number of first-professional degrees fell between 1985 and 1988 and has been stable since then (Table 39-1). The number of master's degrees was 9 percent larger in 1990 than in 1980—the number first declined 5 percent between 1980 and 1984, and then increased each year after 1984.

The fields in which degrees were awarded have shifted several times over the past two decades. Since the mid-1980s, there has been a reversal of some of the earlier trends. In particular, the number of degrees conferred in the humanities, social and behavioral sciences, and education have increased while the number conferred in mathematics, physical science, computer science, and engineering have decreased (*Indicators 40* and *41*).

NOTES:

1. U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990 and 1987.
2. U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1992*, Table 80.

## Selected characteristics of preprimary enrollment

- **In 1991, private schools enrolled 63 percent of pre-K students (down from 67 percent in 1988). In contrast, private schools enrolled only 15 percent of kindergarten students.**
- **The percentage of children in kindergarten who attend full day has more than doubled since 1972. The percentage of children in pre-K who attend full day has changed little and is now less than that of children in kindergarten.**
- **Minority enrollment remained about one-fifth of total pre-K enrollment between 1972 and 1991. However, the percentage of pre-K students from low income families increased from about 10 to 15 percent over the period.**

*Because enrollment at the preprimary level is often optional, different enrollment patterns emerge from those at the elementary-secondary level. Additionally, students in preprimary education may enroll either on a full- or part-day basis. These various enrollment distributions can suggest the growth or decline of the different sectors of preprimary education.*

- **Minority enrollment as a percentage of total kindergarten enrollment increased by 8 percentage points during the same period, due to increases for Hispanics. The percentage of kindergarten students from low income families rose 10 percentage points between 1972 and 1991.**

### Selected characteristics of preprimary students, by level: 1972–1991

| | Pre-K | | | | Kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Percent private | Percent full day | Percent minority[1] | Percent low income[2] | Percent private | Percent full day | Percent minority[1] | Percent low income[2] |
| 1972 | 68.7 | 31.6 | 19.0 | 10.3 | 15.9 | 17.9 | 21.8 | 10.0 |
| 1973 | 69.8 | 29.2 | 20.6 | 9.5 | 16.0 | 19.6 | 19.2 | 10.3 |
| 1974 | 73.7 | 33.2 | 19.0 | — | 16.2 | 19.4 | 21.0 | — |
| 1975 | 67.2 | 33.9 | 20.6 | 11.7 | 16.0 | 22.0 | 20.6 | 10.5 |
| 1976 | 68.8 | 30.3 | 19.3 | 10.2 | 15.1 | 22.9 | 22.8 | 13.2 |
| 1977 | 65.3 | 32.9 | 19.9 | 12.2 | 16.5 | 27.7 | 22.3 | 13.2 |
| 1978 | 67.8 | 34.6 | 21.5 | 11.1 | 16.6 | 27.5 | 22.6 | 12.6 |
| 1979 | 66.0 | 33.5 | — | 11.7 | 14.3 | 29.7 | — | 14.6 |
| 1980 | 68.1 | 34.3 | 21.9 | 11.3 | 15.3 | 30.1 | 23.7 | 14.7 |
| 1981 | 67.8 | 29.3 | 20.2 | 12.5 | 17.2 | 30.5 | 24.6 | 14.8 |
| 1982 | 66.1 | 29.1 | 17.9 | 12.5 | 16.8 | 32.4 | 25.3 | 17.2 |
| 1983 | 65.6 | 29.5 | 18.4 | 12.7 | 19.5 | 32.8 | 24.0 | 16.7 |
| 1984 | 67.7 | 33.9 | 19.4 | 10.6 | 15.2 | 36.2 | 24.5 | 18.9 |
| 1985 | 65.7 | 34.1 | 20.1 | 10.7 | 15.6 | 38.3 | 25.7 | 18.5 |
| 1986 | 67.3 | 35.2 | 19.3 | 11.8 | 16.0 | 39.7 | 27.7 | 20.5 |
| 1987 | 67.2 | 33.4 | 19.4 | 11.1 | 14.8 | 37.1 | 28.0 | 20.1 |
| 1988 | 67.1 | 31.3 | 16.6 | 12.1 | 13.6 | 38.0 | 26.5 | 17.6 |
| 1989 | 66.2 | 33.8 | 18.7 | 12.1 | 14.9 | 40.1 | 25.7 | 17.6 |
| 1990 | 64.5 | 34.2 | 20.3 | 14.0 | 14.4 | 43.6 | 28.3 | 18.4 |
| 1991 | 62.7 | 35.1 | 19.3 | 14.5 | 15.0 | 42.8 | 29.4 | 20.5 |

— Not available.

[1] Includes only blacks and Hispanics.

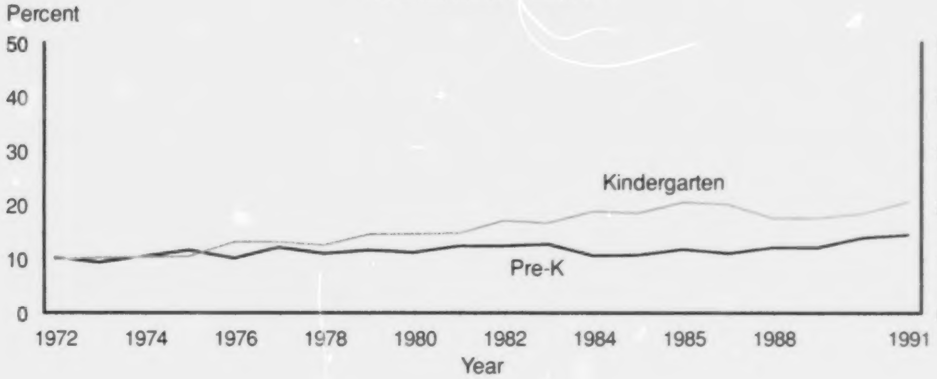
[2] Low income is defined as the bottom 20 percent of all family incomes.

NOTE: Pre-K and kindergarten enrollment does not include those below 3 years of age.

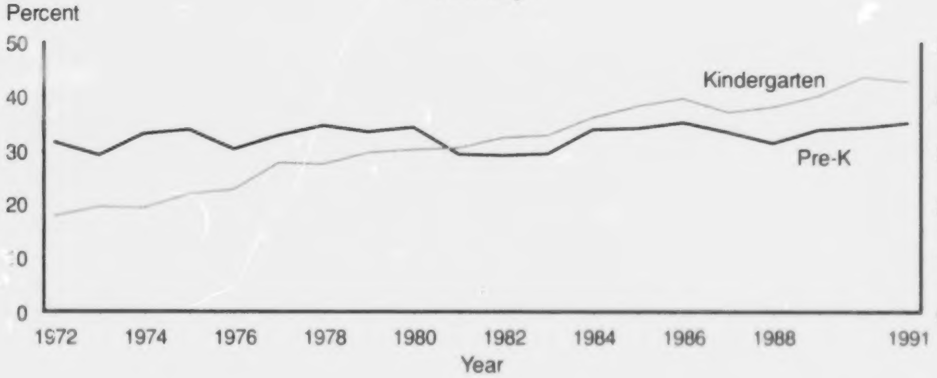
SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Percentage of preprimary students who are from low income families, attend full day, and are minority, by level: 1972–1991

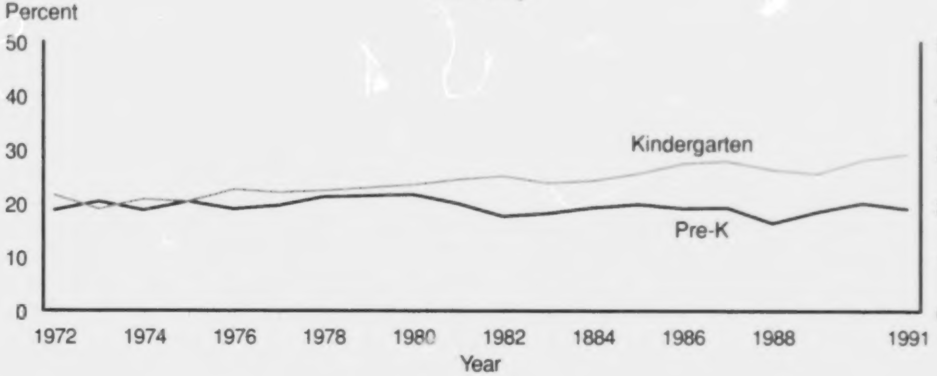
**Low income families**



**Full day**



**Minority**



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Elementary and secondary school enrollment

- **From 1984 to 1991, total public school enrollment rose 7 percent, after declining 15 percent between 1970 to 1984.**
- **Total private school enrollment rose by over 6 percent from 1970 to 1984, but fell by about 9 percent from 1984 to 1991.**
- **Total public school enrollment is projected to rise from 42.6 million to 48.3 million from 1992 to 2003, an increase of 13 percent. During the same time period, total private school enrollment is expected to rise from 5.3 million to about 6 million, also an increase of 13 percent.**

*School enrollment is one measure of the size of the education system and is a measure of the demand for teachers, buildings, and other resources used in education. Past trends and projected future changes in the composition of enrollment across levels of education, regions of the country, and between public and private schools can provide an indication of where and what types of teachers and other resources will be required. Elementary and secondary school enrollment is determined primarily by demographics, that is, by birth rates and immigration.*

### Elementary and secondary school enrollment, by control of school and level, with projections: 1970–2003

| Fall of year/period | Public schools | | | Private schools | | |
|---|---|---|---|---|---|---|
| | Grades K–12[1] | Grades K–8[1] | Grades 9–12 | Grades K–12[1] | Grades K–8[1] | Grades 9–12 |
| | (In thousands) | | | | | |
| 1970 | 45,894 | 32,558 | 13,336 | 5,363 | 4,052 | 1,311 |
| 1984 | 39,208 | 26,905 | 12,304 | [2]5,700 | [2]4,300 | [2]1,400 |
| 1991 | 42,000 | 30,470 | 11,530 | 5,193 | 4,069 | 1,124 |
| | Projected | | | Projected | | |
| 1992 | 42,586 | 30,895 | 11,691 | 5,286 | 4,142 | 1,144 |
| 2003 | 48,276 | 33,969 | 14,307 | 5,954 | 4,554 | 1,400 |
| | Percentage change | | | Percentage change | | |
| 1970–84 | -14.6 | -17.4 | -7.7 | [2]6.3 | [2]6.1 | [2]6.8 |
| 1984–91 | 7.1 | 13.3 | -6.3 | [2]-8.9 | [2]-5.4 | [2]-19.7 |
| | Projected percentage change | | | Projected percentage change | | |
| 1992–2003 | 13.4 | 9.9 | 22.4 | 12.6 | 9.9 | 18.3 |

[1] Includes most kindergarten and some nursery school.
[2] Estimated.

### Percentage distribution of public elementary and secondary school enrollment, by region: Selected years, fall 1970–1991

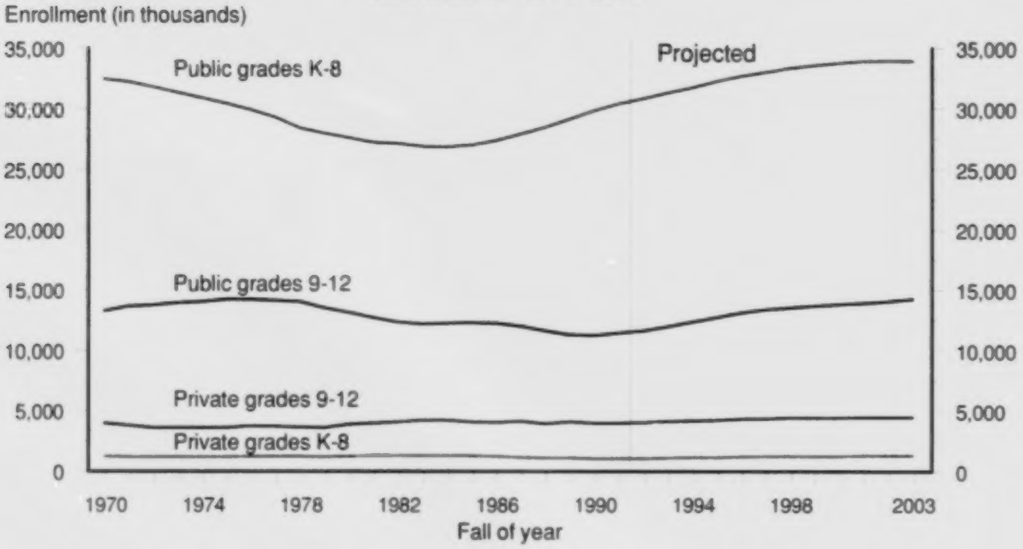
| Fall of year | Northeast | Midwest | South | West |
|---|---|---|---|---|
| 1970 | 21.5 | 28.2 | 32.2 | 18.2 |
| 1975 | 21.6 | 27.4 | 32.7 | 18.3 |
| 1980 | 20.1 | 26.2 | 34.6 | 19.2 |
| 1985 | 18.6 | 25.0 | 35.8 | 20.6 |
| 1991 | 17.6 | 24.0 | 35.8 | 22.6 |

NOTE: Regions of the country for this indicator are defined differently than those in the glossary. See the note to supplemental tables 37-2 or 37-3 for these definitions. Enrollment includes a relatively small number of prekindergarten students.

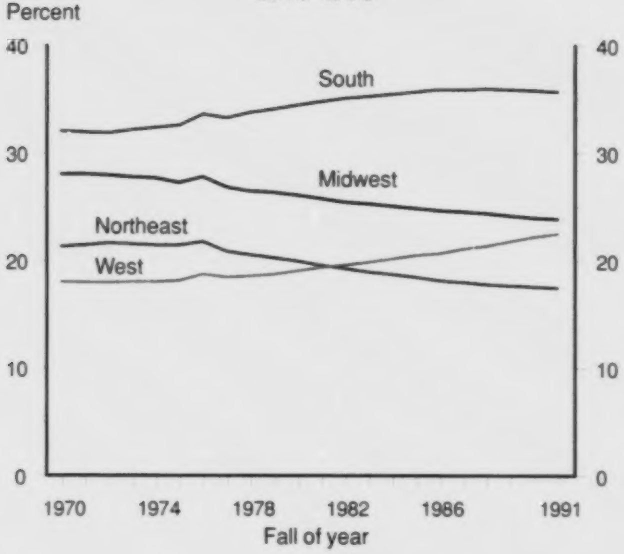
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Historical Trends: State Education Facts*; Common Core of Data, various years; *Digest of Education Statistics, 1992*, table 3; *Projections of Education Statistics to 2003*, 1992, table 1.

## Elementary and secondary school enrollment, by control and region

Elementary and secondary enrollment, by level and control: 1970–2003



Public enrollment distribution, by region: 1970–1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Historical Trends: State Education Facts*, Common Core of Data, various years, *Digest of Education Statistics, 1992*, table 3, *Projections of Education Statistics to 2003*, 1992, table 1.

## College and university enrollment, by type and control of institution

- **Total enrollment rose each year between 1985 and 1991 in all types of higher education institutions except private 2-year institutions, despite a decline in the number of high school graduates aged 20–24.**
- **Following a period of substantial growth, enrollment in public 2-year institutions fell during the early- to mid-1980s. Since 1985, however, it has increased annually, turning sharply upward between 1990 and 1991.**
- **The distribution of total enrollment between public and private institutions has changed little over the last two decades. Public institutions continue to enroll nearly 8 of every 10 students.**
- **Within the public sector, 2-year institutions grew faster than 4-year institutions in the late 1980s and early 1990s. As a result, 2-year institutions increased their share of public enrollment from 45 to 48 percent between 1985 and 1991.**

*Colleges and universities offering 2- and 4-year programs under public and private control address somewhat different student needs. Fluctuations in enrollments may indicate, among other things, changes in student interest in the various kinds of services offered, changes in the cost of attendance, and changes in the availability of student financial aid.*

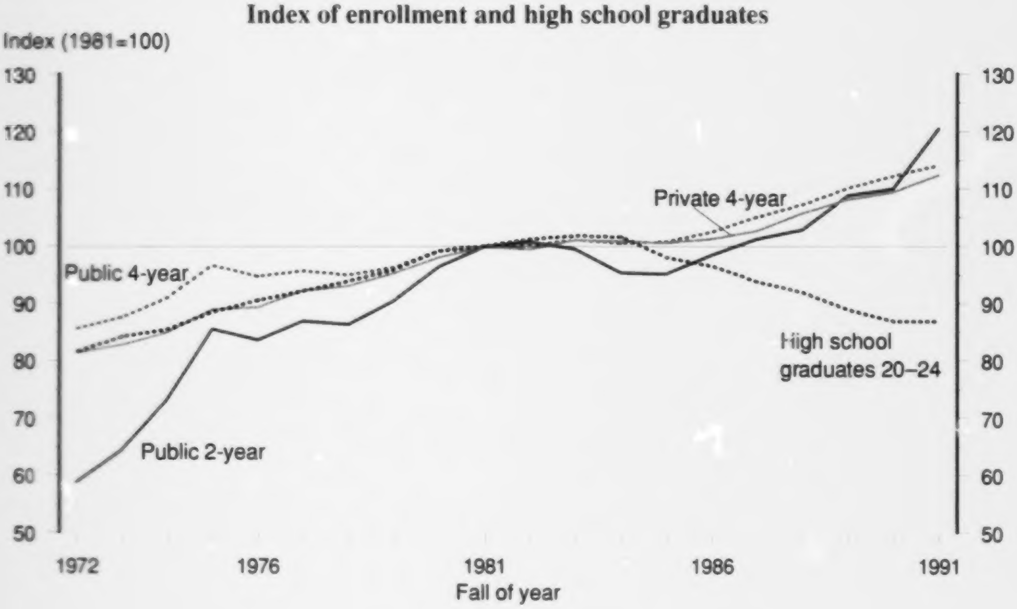
### Total enrollment in higher education, by type and control of institution : Selected years 1972–1991

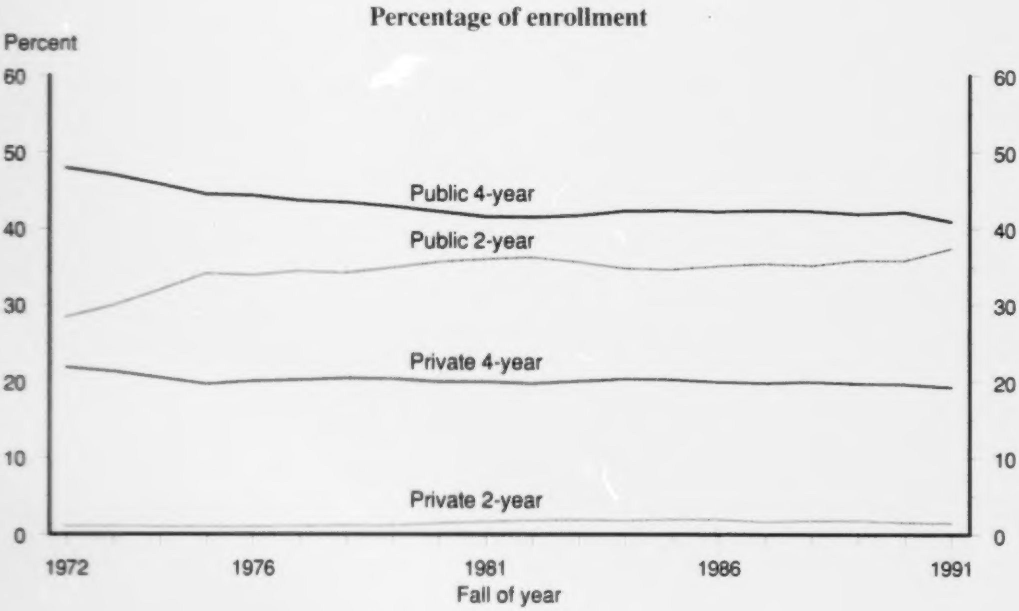
| Fall of year | Index of enrollment (1981=100) | | | | Index of high school graduates aged 20-24 (1981=100) | Percent of enrollment | | |
|---|---|---|---|---|---|---|---|---|
| | All institutions | Public, 4-year | Public, 2-year | Private, 4-year | | Public, 4-year | Public, 2-year | Private, 4-year |
| 1972 | 74.5 | 85.7 | 58.9 | 81.5 | 81.6 | 48.1 | 28.7 | 22.0 |
| 1973 | 77.6 | 87.7 | 64.5 | 82.8 | 84.2 | 47.2 | 30.1 | 21.5 |
| 1974 | 82.6 | 91.0 | 73.3 | 85.0 | 85.4 | 46.0 | 32.1 | 20.7 |
| 1975 | 90.4 | 96.7 | 85.6 | 89.1 | 88.5 | 44.7 | 34.3 | 19.8 |
| 1976 | 89.0 | 94.9 | 83.7 | 89.5 | 90.6 | 44.5 | 34.1 | 20.2 |
| 1977 | 91.2 | 95.7 | 87.1 | 92.3 | 92.1 | 43.8 | 34.6 | 20.4 |
| 1978 | 91.0 | 95.1 | 86.5 | 93.2 | 93.9 | 43.6 | 34.4 | 20.6 |
| 1979 | 93.5 | 96.4 | 90.5 | 95.3 | 95.9 | 43.0 | 35.1 | 20.5 |
| 1980 | 97.8 | 99.3 | 96.6 | 98.1 | 99.2 | 42.4 | 35.8 | 20.2 |
| 1981 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 41.8 | 36.2 | 20.1 |
| 1982 | 100.4 | 100.2 | 100.9 | 99.5 | 101.1 | 41.7 | 36.4 | 19.9 |
| 1983 | 100.8 | 101.1 | 99.5 | 101.2 | 101.7 | 41.9 | 35.8 | 20.2 |
| 1984 | 99.0 | 100.6 | 95.5 | 101.0 | 101.6 | 42.5 | 35.0 | 20.5 |
| 1985 | 99.0 | 100.8 | 95.3 | 100.7 | 97.9 | 42.5 | 34.9 | 20.5 |
| 1986 | 101.1 | 102.6 | 98.5 | 101.4 | 96.5 | 42.4 | 35.3 | 20.2 |
| 1987 | 103.2 | 105.1 | 101.3 | 102.8 | 93.8 | 42.5 | 35.6 | 20.0 |
| 1988 | 105.5 | 107.3 | 103.0 | 105.8 | 91.9 | 42.5 | 35.4 | 20.2 |
| 1989 | 109.4 | 110.2 | 109.0 | 108.2 | 88.8 | 42.1 | 36.1 | 19.9 |
| 1990 | 111.7 | 113.2 | 111.5 | 109.7 | 86.8 | 42.3 | 36.2 | 19.[illegible] |
| 1991 | 116.1 | 114.3 | 120.6 | 112.6 | 86.8 | 41.1 | 37.6 | 19.5 |

NOTE: Data for 2-year private institutions are not shown separately, but are included in the total.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of fall enrollment, various years. U.S. Department of Commerce, Bureau of the Census, March Current Population Survey.

## Total enrollment in higher education, by type and control of institution: Fall 1972–1991





SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of fall enrollment, various years. U.S. Department of Commerce, Bureau of the Census, March Current Population Survey.

## Degrees conferred, by level

- **The number of bachelor's degrees grew throughout the 1980s despite a decline in the number of students completing high school.**
- **The number of master's degrees fell between 1977 and 1984 but increased each year after that, reaching its highest level of the 1971–90 period by 1990.**
- **Following years of negative or little growth, the number of doctor's degrees rose 16 percent between 1985 and 1990.**
- **The number of first-professional degrees fell during the last half of the 1980s after a long period of growth.**

*Trends in the number of degrees conferred, by degree levels, provide clues to changes in the productivity of the nation's higher education system, the allocation of resources within the system, and the level of trained individuals within the society. Viewed in relation to the eligible population—the number of high school graduates—the data show whether degrees have lagged behind or exceeded growth in that population.*

### Index of number of degrees conferred and number of high school completions (1981=100): Academic years ending 1971–1990

| Academic year ending | Associate's degrees | Bachelor's degrees | Master's degrees | Doctor's degrees | First-professional degrees[1] | High school completions[2] |
|---|---|---|---|---|---|---|
| 1971 | 60.7 | 89.8 | 77.9 | 97.4 | 52.7 | — |
| 1972 | 70.2 | 94.9 | 85.1 | 101.2 | 60.3 | — |
| 1973 | 75.9 | 98.6 | 89.1 | 105.5 | 69.5 | — |
| 1974 | 82.6 | 101.1 | 93.7 | 102.6 | 74.8 | 96.0 |
| 1975 | 86.5 | 98.7 | 98.9 | 103.4 | 77.7 | 99.0 |
| 1976 | 94.0 | 99.0 | 105.4 | 103.4 | 87.1 | 99.2 |
| 1977 | 97.6 | 98.3 | 107.2 | 100.8 | 89.4 | 99.4 |
| 1978 | 99.0 | 98.5 | 105.4 | 97.5 | 92.5 | 100.0 |
| 1979 | 96.7 | 98.5 | 101.8 | 99.3 | 95.7 | 101.0 |
| 1980 | 96.3 | 99.4 | 100.8 | 99.0 | 97.5 | 100.4 |
| 1981 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1982 | 104.4 | 101.9 | 99.9 | 99.2 | 100.1 | 99.2 |
| 1983 | 109.6 | 103.7 | 98.0 | 99.4 | 101.6 | 95.6 |
| 1984 | 108.7 | 104.2 | 96.1 | 100.8 | 103.4 | 91.0 |
| 1985 | 109.2 | 104.7 | 96.8 | 100.0 | 104.3 | 88.1 |
| 1986 | 107.1 | 105.6 | 97.6 | 102.1 | 102.7 | 87.5 |
| 1987 | 105.0 | 106.0 | 97.9 | 103.5 | 101.1 | 89.4 |
| 1988 | 104.6 | 106.2 | 101.0 | 105.7 | 97.9 | 90.7 |
| 1989 | 104.9 | 108.9 | 105.0 | 108.4 | 98.5 | 87.8 |
| 1990 | 109.2 | 112.2 | 109.5 | 116.0 | 98.6 | 85.5 |

— Not available.

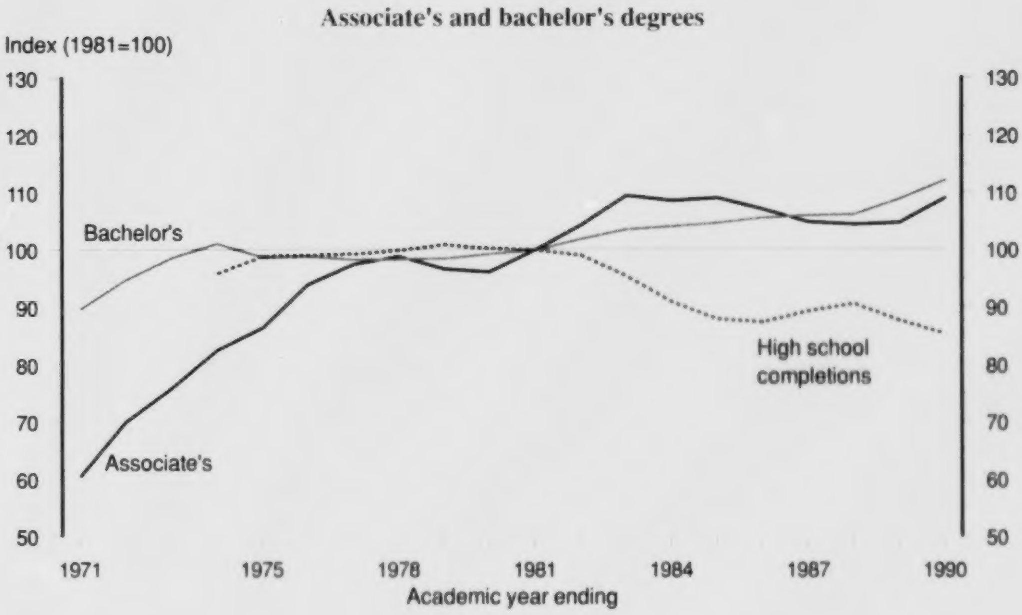
[1] Includes degrees in law, medicine, denistry, and theology. See glossary for a definition and complete list of degrees included.

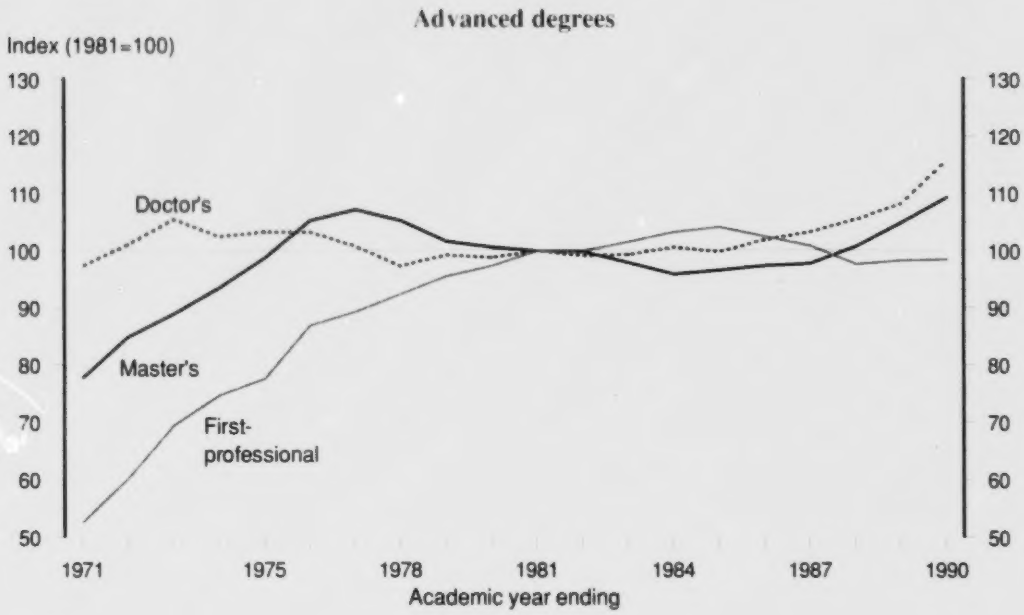
[2] High school completions include high school diplomas and GED credentials.

NOTE: The data in this table includes only degrees conferred by institutions of higher education.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred and Common Core of Data. American Council on Education, annual GED surveys.

## Index of number of degrees conferred, by degree level, and number of high school completions (1981=100): Academic years ending 1971–1990





NOTE: High school completions include diplomas and GED credentials.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred and Common Core of Data. American Council on Education, annual GED surveys.

## Science and engineering degrees earned at the baccalaureate level

- **Following a decade of sharp decline, the number of bachelor's degrees earned in mathematics rose in the early- to mid-1980s and then dropped off again. Mathematics share of all bachelor's degrees in 1990 was less than one-half the 1971 level.**
- **Physical science degrees fell off sharply in the last half of the 1980s, a period when the total number of bachelor's degrees increased. As a result, the percentage of bachelor's degrees earned in the physical sciences dropped from 2.4 percent in 1984 to 1.5 percent in 1990.**
- **Computer science and engineering degrees grew in both absolute and relative terms during the first half of the 1980s but declined during the last half of the decade.**

*Concerns about the nation's economic health and international competitiveness have focused attention on the study of science and engineering in our educational institutions. Students pursuing these fields at the baccalaureate level are an immediate source of manpower for the scientific and technological labor force as well as a source of graduate students preparing for careers as college faculty and researchers in the fields.*

**Bachelor's degrees earned in science and engineering, by field: Selected academic years ending 1971–1990**

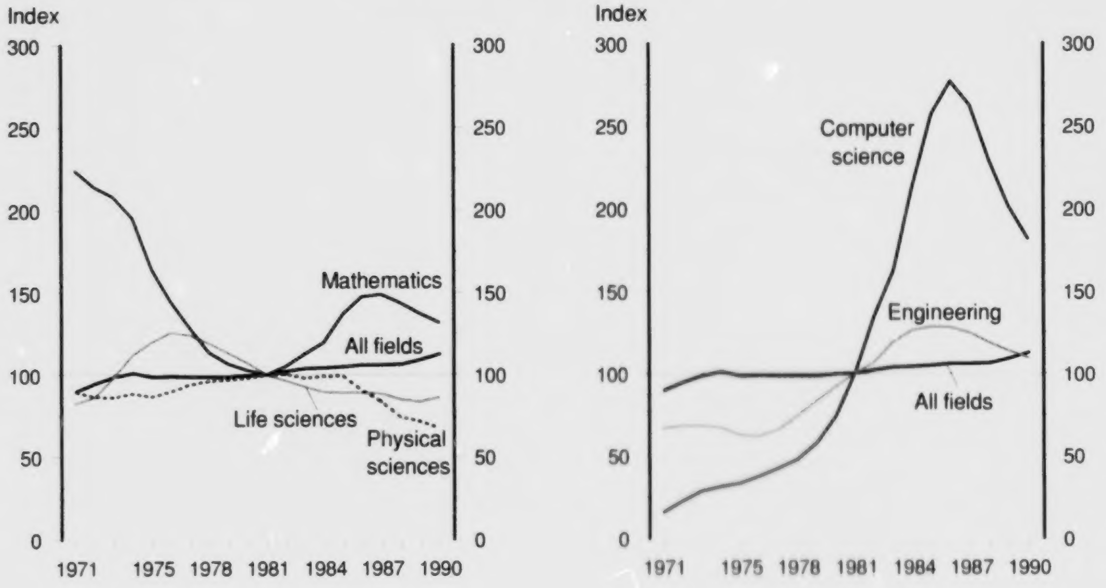
| Field of study | 1971 | 1975 | 1978 | 1981 | 1984 | 1987 | 1990 |
|---|---|---|---|---|---|---|---|
| | | | | **Index of number of degrees (1981=100)** | | | |
| All fields | 89.8 | 98.7 | 98.5 | 100.0 | 104.2 | 106.0 | 112.2 |
| Natural sciences | 104.7 | 115.9 | 111.3 | 100.0 | 96.5 | 95.3 | 86.8 |
| Life sciences | 82.7 | 119.7 | 119.2 | 100.0 | 89.4 | 88.2 | 86.0 |
| Physical sciences | 89.4 | 86.7 | 96.0 | 100.0 | 98.8 | 83.4 | 67.3 |
| Mathematics | 223.9 | 164.1 | 113.5 | 100.0 | 119.3 | 148.8 | 131.8 |
| Computer sciences and engineering | 58.2 | 57.6 | 69.7 | 100.0 | 140.5 | 147.3 | 121.6 |
| Computer science | 15.8 | 33.3 | 47.6 | 100.0 | 212.8 | 262.3 | 181.4 |
| Engineering | 66.7 | 62.5 | 74.2 | 100.0 | 125.9 | 124.1 | 109.5 |
| | | | | **Percent of bachelor's degrees** | | | |
| Natural sciences | 9.8 | 9.8 | 9.5 | 8.4 | 7.8 | 7.5 | 6.5 |
| Life sciences | 4.3 | 5.6 | 5.6 | 4.6 | 4.0 | 3.8 | 3.5 |
| Physical sciences | 2.5 | 2.3 | 2.5 | 2.6 | 2.4 | 2.0 | 1.5 |
| Mathematics | 3.0 | 2.0 | 1.4 | 1.2 | 1.4 | 1.7 | 1.4 |
| Computer sciences and engineering | 6.2 | 5.6 | 6.8 | 9.6 | 13.0 | 13.4 | 10.4 |
| Computer science | 0.3 | 0.5 | 0.8 | 1.6 | 3.3 | 4.0 | 2.6 |
| Engineering | 6.0 | 5.1 | 6.0 | 8.0 | 9.7 | 9.4 | 7.8 |

NOTE: Data on graduate degrees earned in science and engineering fields by American and foreign students are presented in *Indicator 42*. The data in this table includes only degrees conferred by institutions of higher education.

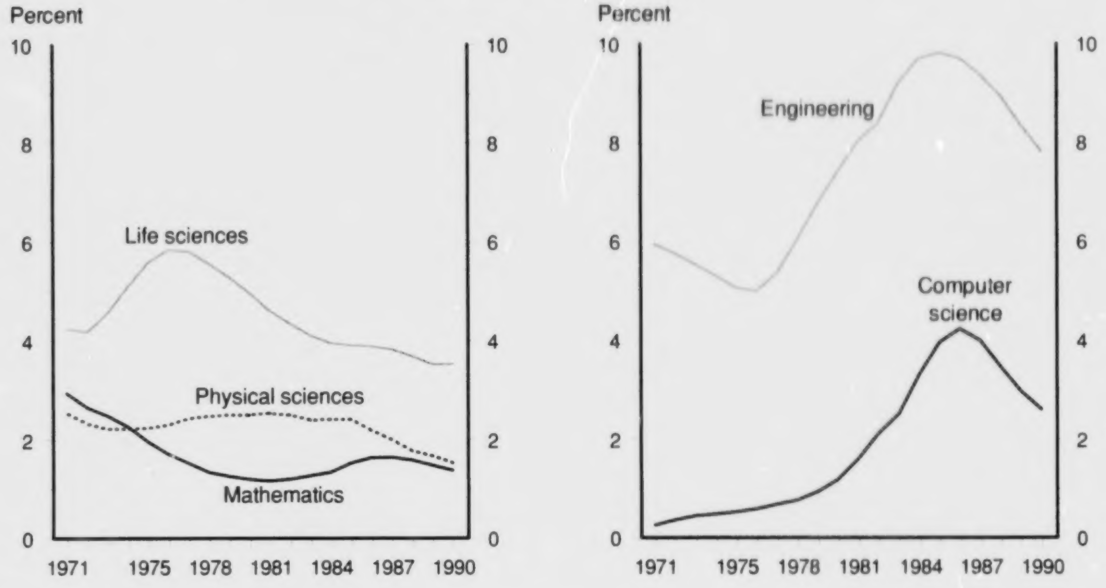
SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Bachelor's degrees earned in science and engineering, by field: 1971–1990

**Index of number of degrees (1981=100)**



**Percent of total degrees**



SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Bachelor's degrees conferred, by field of study

- **Between the mid–1970s and the mid–1980s, the number of bachelor's degrees conferred in the humanities, social/behavioral sciences, natural sciences, and education declined. In contrast, the number conferred in computer science, engineering, business, and other technical/professional fields increased.**
- **Since the mid–1980s, there has been a reversal in some of the earlier trends. Most notably, degrees in the humanities, social/behavioral sciences, and education are up, whereas degrees in computer science and engineering are down.**

*Shifts in the fields in which students major affect the demand for courses and faculty and the supply of new talent in the various job markets. These shifts are indicated by changes in the number and proportion of bachelor's degrees conferred in different fields.*

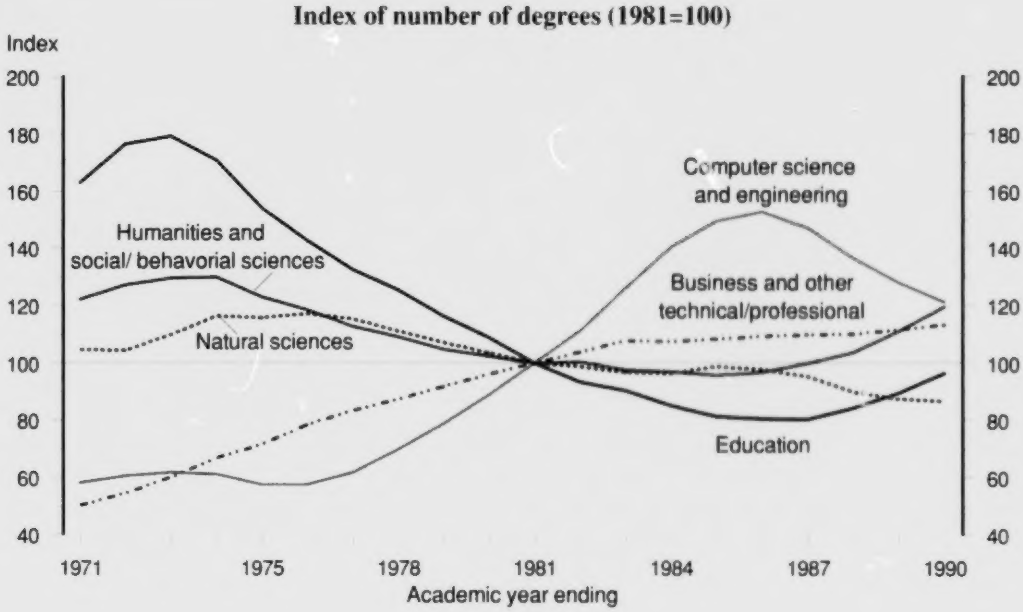
### Bachelor's degrees conferred, by field of study: Selected academic years ending 1972–1990

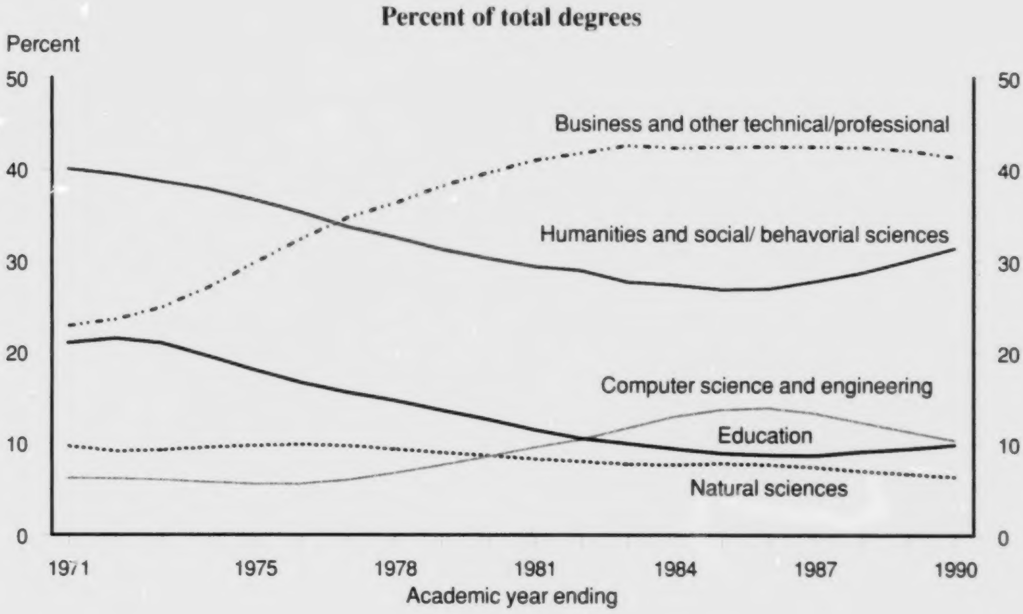
| Field of study | 1972 | 1975 | 1978 | 1981 | 1984 | 1987 | 1990 |
|---|---|---|---|---|---|---|---|
| | | | **Index of the number of degrees (1981=100)** | | | | |
| All fields | 94.9 | 98.7 | 98.5 | 100.0 | 104.2 | 106.0 | 112.2 |
| Humanities and social/behavioral sciences | 127.3 | 123.1 | 109.2 | 100.0 | 97.0 | 100.1 | 120.0 |
| Humanities | 111.3 | 113.8 | 106.8 | 100.0 | 99.9 | 101.7 | 119.1 |
| Social/behavioral sciences | 142.5 | 131.9 | 111.5 | 100.0 | 94.3 | 98.5 | 120.8 |
| Natural sciences | 104.5 | 115.9 | 111.3 | 100.0 | 96.5 | 95.3 | 86.8 |
| Life sciences | 86.3 | 119.7 | 119.2 | 100.0 | 89.4 | 88.2 | 86.0 |
| Physical sciences | 86.6 | 86.7 | 96.0 | 100.0 | 98.8 | 83.4 | 67.3 |
| Mathematics | 214.1 | 164.1 | 113.5 | 100.0 | 119.3 | 148.8 | 131.8 |
| Computer science and engineering | 60.5 | 57.6 | 69.7 | 100.0 | 140.5 | 147.3 | 121.6 |
| Computer science | 22.5 | 33.3 | 47.6 | 100.0 | 212.8 | 262.3 | 181.4 |
| Engineering | 68.2 | 62.5 | 74.2 | 100.0 | 125.9 | 124.1 | 109.5 |
| Education | 176.6 | 154.2 | 125.7 | 100.0 | 85.3 | 80.4 | 96.7 |
| Business and other technical/professional | 54.6 | 71.7 | 87.3 | 100.0 | 107.7 | 110.0 | 113.4 |
| Business | 60.9 | 66.7 | 80.4 | 100.0 | 115.4 | 121.0 | 125.0 |
| Other technical/professional | 47.9 | 77.0 | 94.8 | 100.0 | 99.4 | 98.1 | 100.9 |
| | | | **Percent of total degrees** | | | | |
| Humanities and social/behavioral sciences | 39.5 | 36.7 | 32.6 | 29.4 | 27.4 | 27.8 | 31.5 |
| Humanities | 16.8 | 16.5 | 15.5 | 14.3 | 13.7 | 13.8 | 15.2 |
| Social/behavioral sciences | 22.7 | 20.2 | 17.1 | 15.1 | 13.7 | 14.0 | 16.2 |
| Natural sciences | 9.2 | 9.8 | 9.5 | 8.4 | 7.8 | 7.5 | 6.5 |
| Life sciences | 4.2 | 5.6 | 5.6 | 4.6 | 4.0 | 3.8 | 3.5 |
| Physical sciences | 2.3 | 2.3 | 2.5 | 2.6 | 2.4 | 2.0 | 1.5 |
| Mathematics | 2.7 | 2.0 | 1.4 | 1.2 | 1.4 | 1.7 | 1.4 |
| Computer science and engineering | 6.1 | 5.6 | 6.8 | 9.6 | 13.0 | 13.4 | 10.4 |
| Computer science | 0.4 | 0.5 | 0.8 | 1.6 | 3.3 | 4.0 | 2.6 |
| Engineering | 5.8 | 5.1 | 6.0 | 8.0 | 9.7 | 9.4 | 7.8 |
| Education | 21.6 | 18.1 | 14.8 | 11.6 | 9.5 | 8.8 | 10.0 |
| Business and other technical/professional | 23.6 | 29.8 | 36.3 | 41.0 | 42.4 | 42.5 | 41.4 |
| Business | 13.7 | 14.4 | 17.4 | 21.3 | 23.6 | 24.3 | 23.7 |
| Other technical/professional | 9.9 | 15.4 | 18.9 | 19.7 | 18.8 | 18.2 | 17.7 |

NOTE: See Glossary for definitions of field of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Bachelor's degrees conferred, by field of study: Academic years ending 1971–1990





NOTE: See glossary for definitions of field of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Graduate degrees earned by foreign students

- **Foreign students increased numerically and proportionately in all fields between 1977 and 1990 at both the master's and doctor's degree levels. Growth was strongest in science and engineering (supplemental tables 42-1 and 42-4).**

*Growth in the foreign student population can affect enrollment levels and, in turn, influence the amount and allocation of material, personnel, and financial resources. It may also signal potential problems for U.S. competitiveness, depending on changes in the number of Americans receiving degrees in critical fields and whether foreign students stay in this country to work after completing their studies.*

- **The number of foreign students earning doctorates in mathematics increased substantially between 1977 and 1990, whereas the number of American doctorates in this field declined. As a result, about one in two of the mathematics doctorates awarded in 1990 went to foreign students, up from about one in five in 1977.**
- **The number of Americans earning doctor's degrees in engineering increased between 1981 and 1990. However, since foreign students in this field increased at a faster rate, their share of degrees increased from 38 to 50 percent.**
- **Of the foreign students earning doctorates in science and engineering in 1990, 33 percent had definite postgraduate plans in the United States, 14 percent for employment and 19 percent for postdoctoral study (supplemental table 42-6).**

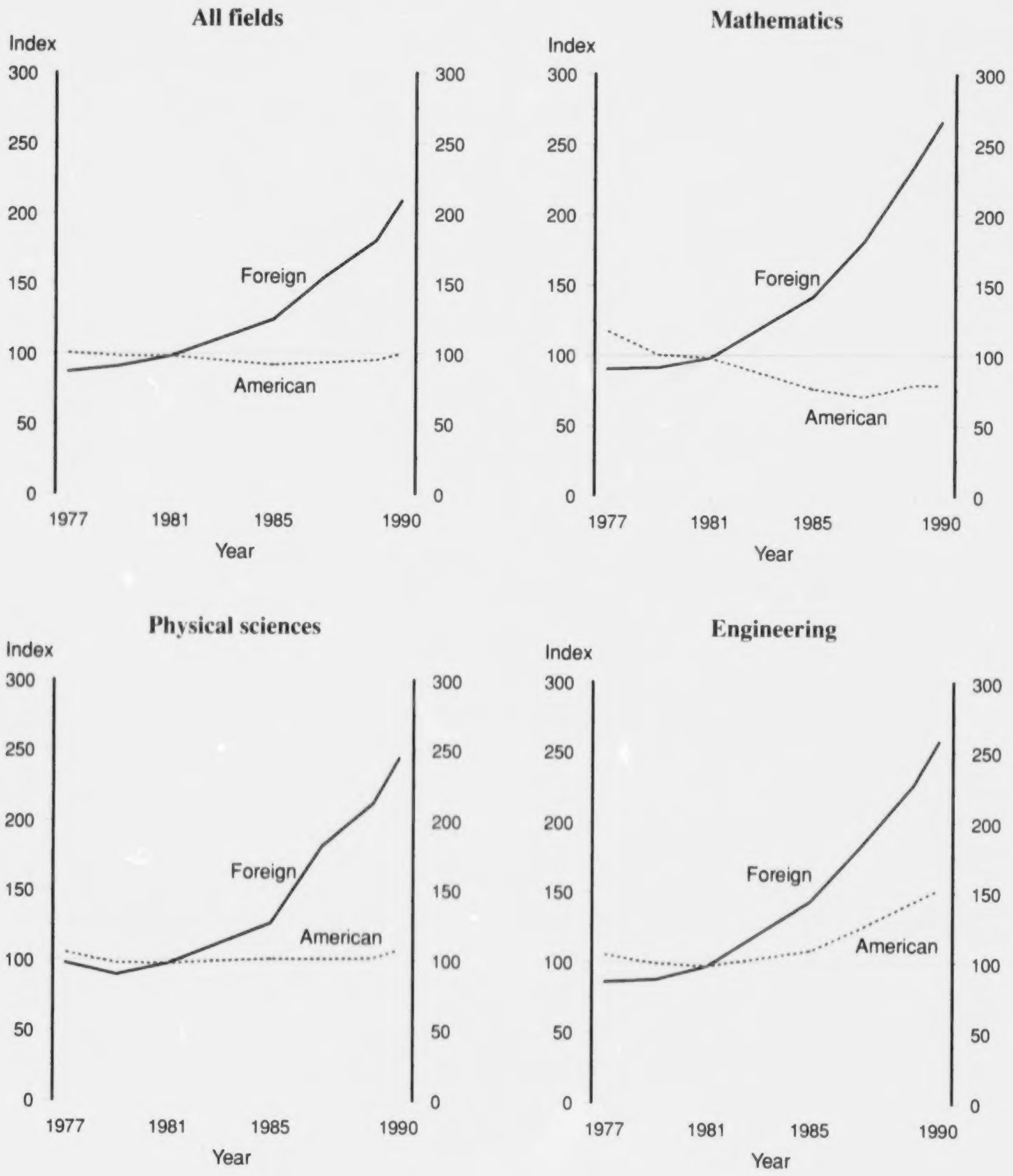
### Doctor's degrees earned by foreign and American students, by field of study: Selected academic years ending 1977–1990

| | Index of number of degrees (1981=100) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Foreign students | | | American students | | | Percent earned by foreign students | | | |
| Field of study | 1977 | 1985 | 1990 | 1977 | 1985 | 1990 | 1977 | 1981 | 1985 | 1990 |
| All fields | 89.2 | 126.5 | 211.2 | 102.5 | 94.3 | 101.6 | 11.3 | 12.8 | 16.5 | 23.4 |
| Humanities | 85.1 | 108.4 | 161.6 | 112.0 | 91.6 | 98.8 | 6.4 | 8.3 | 9.6 | 12.8 |
| Social and behavioral sciences | 103.7 | 134.8 | 171.7 | 108.1 | 89.9 | 98.8 | 8.1 | 8.4 | 12.1 | 13.8 |
| Life sciences | 118.3 | 130.1 | 260.2 | 89.1 | 86.8 | 90.2 | 10.1 | 7.8 | 11.2 | 19.6 |
| Physical sciences | 100.4 | 128.7 | 246.8 | 107.5 | 103.4 | 109.6 | 15.9 | 16.9 | 20.2 | 31.4 |
| Mathematics | 92.5 | 143.9 | 268.2 | 119.5 | 78.7 | 81.3 | 19.4 | 23.8 | 36.3 | 50.7 |
| Computer science | 86.5 | 134.6 | 530.8 | 85.5 | 85.0 | 173.5 | 20.8 | 20.6 | 29.2 | 44.3 |
| Engineering | 88.6 | 146.2 | 260.6 | 108.3 | 111.3 | 155.1 | 32.9 | 37.5 | 44.0 | 50.2 |
| Education | 64.2 | 100.8 | 102.9 | 103.7 | 88.1 | 86.4 | 4.8 | 7.5 | 8.5 | 8.8 |
| Other | 81.5 | 117.3 | 206.4 | 82.9 | 115.2 | 123.9 | 18.4 | 18.6 | 18.9 | 27.6 |

NOTE: Foreign students are non-United States citizens holding temporary U.S. visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

## Index of the number of doctor's degrees (1981=100) earned in selected fields by foreign and American students: Selected academic years ending 1977–1990



NOTE: Foreign students are non-United States citizens holding temporary U.S. visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred.

# Climate, Classrooms, and Diversity of Educational Institutions

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The quality of schools is reflected not only in the cognitive achievement of students, but in the learning environment schools provide. The features of schools and students that bear on the learning environment are too numerous to be adequately covered by a few indicators, and national data on many aspects of interest about this environment are lacking. Therefore, the indicators in this section must be viewed only as a small sampling of the indicators necessary to describe fully the learning environment of schools.

**Diversity**

The demographic characteristics of American families necessarily describe the characteristics of elementary and secondary school students and the special needs they bring with them to school. One out of five children lives in a family with income below the poverty line (*Indicator 39*, 1992). These children are likely to be concentrated in some schools and largely absent in others. Forty-four percent of black and 38 percent of Hispanic children live in poverty, and about half of the children in public schools in the central cities of metropolitan areas are black or Hispanic (*Indicator 43*). It follows that public schools in the central cities of metropolitan areas have higher percentages of children living in poverty than public schools in other areas.

Racial and ethnic diversity in the schools also brings cultural diversity. Hispanic and Asian children are more likely to hear and speak a language other than English at home. In 1990, Hispanic children ranged from 4 percent of children in public schools in non-metropolitan areas to 20 percent of children in public schools in the central cities. Black children ranged from 7 percent of students in private schools to 33 percent of children in public schools in central cities (*Indicator 43*).

Higher education institutions are less diverse than public elementary and secondary schools, because minorities, with the exception of Asians, are less likely than whites to enroll in higher education (*Indicator 38*). Overall, in 1990, 16 percent of public school children were black, 12 percent were Hispanic, and 3 percent were Asian (Table 43-2). In higher education, 9, 6, and 4 percent of students were black, Hispanic, and Asian, respectively (*Indicator 44*).

Students attending different types of higher education institutions often come from different backgrounds. A student whose mother is not a high school graduate or whose family has a relatively low income is more likely to attend a private for-profit college or a public 2-year college. Conversely a student whose mother is a college graduate or whose family has a relatively high income is more likely to attend a private, not-for-profit, Ph.D.-granting college or university. The likelihood of attending a public 4-year college without Ph.D.-granting programs is not associated with the educational attainment of a student's mother (*Indicator 45*).

**Classrooms**

Students spend about 180 days in school each year (this varies from 175 to 183 across the states). They spend about 6.5 hours in school each day (this varies from 6.1 to 7.1 across the states) and about 5.6 hours in *instruction* each day. Other countries often have more days in the school year—about 220 in Japan, Korea, and Taiwan, for example—but in these cases the amount of instructional time per day is generally shorter—4.0, 4.4, and 5.3 hours in Japan, Korea, and Taiwan, respectively (*Indicator 49*). Also, in the United States the amount of time public and private school students spend in school is very similar.

The classroom is the domain of the teacher. A high percentage of teachers, but certainly not all, report having complete control over classroom decisions such as determining the amount of homework, grading students, and selecting teaching techniques. In public secondary schools, about one-third of classroom teachers reported having complete control over disciplining of students, selection of textbooks, and course content and topics compared to about half of teachers in private secondary schools (*Indicator 47*).

Schools are asked to provide educational services that go beyond the traditional academic subjects and to help ameliorate problems faced by students. These services include: teaching students whose first language is not English, teaching children with disabilities, teaching gifted and talented children, providing diagnostic and prescriptive services, and providing extended day programs for children whose parents work. Generally, public schools are more likely than private schools to provide such special services. For example, 87 percent of 4th grade students in public schools were in schools that had programs for the handicapped in contrast to 17 percent of their counterparts in private schools; 72 percent of public elementary schools provided diagnostic services to uncover the learning problems of students and provided therapeutic or education programs to serve them in contrast to 42 percent of private elementary schools; and 29 percent of public secondary schools (with 12th-grade students) had programs to teach English as a second language in contrast to 13 percent of private secondary schools (*Indicator 48*). Public schools are generally larger than private schools and therefore may be able to provide these services more efficiently. Public school students also are more diverse and may have greater need for these services than private school students.

There are differences in the services provided by public schools in different settings. Urban and suburban public elementary schools were more likely to have extended day or before- or after-school day-care programs than schools in small cities or rural communities. Urban public schools at all levels were more likely to offer bilingual education than schools outside urban areas (Table 48-1). These differences could be due to a variety of factors including differences in the students, workforce participation of parents, and differences in school finances and, possibly, size.

Courses in colleges and universities are taught by faculty of wide-ranging ranks and in classes of wide-ranging sizes. At research universities, the majority of an undergraduate's classroom contact with faculty was with senior faculty (full and associate professors). However, senior faculty taught larger classes than faculty of lower rank. Generally, students in lower division courses had about the same exposure to senior faculty as students in upper division courses, but in significantly larger classes (*Indicator 51*).

**Climate**

The learning climate both reflects and influences the behavior of students. The learning climate is affected by events within and outside of the school. Two indicators provide a very incomplete picture. Crime in the schools is one indicator. Students who are victimized in school are likely to find it difficult to concentrate on learning. Time spent doing homework and watching television is another indicator. Time spent doing homework not only better prepares a student to learn in school but is a commitment a student makes to learning. Time spent watching television, however, often competes with time spent doing homework.

School safety is an issue which directly affects educators and students. In 1991, more than 1 in 4 high school seniors reported being threatened in school. About 1 in 6 were injured. More than 1 in 4 had their property deliberately damaged. These statistics were similar to what they were 15 years earlier (*Indicator 50*). They are also broadly similar in large metropolitan areas, smaller metropolitan areas, and non-metropolitan areas.

Students spend more time at home than at school, so their use of time at home has important consequences for their learning. In 1990, two-thirds of 17-year-olds reported doing at least one hour of homework each day compared to one-third in 1978. On the other hand, half of 17-year-olds also reported watching at least three hours of television each day. A slightly larger percentage of 13-year-olds than 17-year-olds reported doing at least one hour of homework in 1990 (71 percent), but a substantially larger percentage also reported watching three or more hours of television each day (69 percent). Students whose parents have not graduated from high school spend less time doing homework and spend more time watching television than students whose parents have graduated from college (*Indicator 46*).

## Racial and ethnic distribution of elementary and secondary students

- **Between 1970 and 1991, about one in three students in central city public schools were black. In 1991, 9 percent of students in metropolitan public schools outside of central cities were black, up from 6 percent in 1970.**
- **In 1972, 1 in 10 students in central city public schools was Hispanic; in 1991, 2 in 10 were Hispanic.**
- **In 1990, 3 percent of students in public elementary/secondary schools were Asian, up from 1 percent in 1976 (supplemental table 43-2).**
- **Throughout the 1980s, black and Hispanic students constituted a majority of public school students in central cities.**

*Changes in the racial and ethnic composition of students can create new or increased challenges for the schools. For example, increases in Hispanic and Asian students portend a greater degree of heterogeneity of language and culture in the schools. Also, as many minority students come from poor families, increases in the percentage of minority students may indicate a greater need to help these students take full advantage of educational opportunities.*

**Percentage of students in grades 1 to 12 who are black or Hispanic, by control of school and metropolitan status: 1970–1991**

| | Black | | | | | Hispanic | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Public schools | | | | | Public schools | | | | |
| Year | Total | Central cities | Other metropolitan | Nonmetropolitan | Private schools | Total | Central cities | Other metropolitan | Nonmetropolitan | Private schools |
| 1970 | 14.8 | 32.5 | 6.2 | 12.0 | 4.7 | — | — | — | — | — |
| 1971 | 15.2 | 34.4 | 6.5 | 11.6 | 4.6 | — | — | — | — | — |
| 1972 | 14.9 | 31.7 | 6.3 | 11.3 | 5.2 | 5.8 | 10.8 | 4.4 | 3.6 | 4.7 |
| 1973 | 14.8 | 32.1 | 5.8 | 11.0 | 5.7 | 5.7 | 10.2 | 4.4 | 3.7 | 5.0 |
| 1974 | 15.4 | 33.2 | 6.6 | 11.8 | 4.3 | 6.2 | 11.4 | 4.4 | 4.4 | 7.3 |
| 1975 | 15.6 | 33.0 | 7.0 | 11.8 | 5.0 | 6.6 | 12.0 | 5.1 | 4.1 | 5.9 |
| 1976 | 16.0 | 34.0 | 7.6 | 11.7 | 5.8 | 6.6 | 11.4 | 5.9 | 3.7 | 5.4 |
| 1977 | 15.9 | 35.5 | 7.1 | 12.6 | 6.2 | 6.2 | 11.8 | 5.6 | 2.9 | 6.9 |
| 1978 | 16.1 | 35.9 | 7.4 | 12.3 | 6.0 | 6.4 | 11.9 | 6.1 | 3.0 | 5.2 |
| 1979 | 16.1 | 35.8 | 8.8 | 10.9 | 7.5 | 6.8 | 14.0 | 5.3 | 3.5 | 5.5 |
| 1980 | — | — | — | — | — | — | — | — | — | — |
| 1981 | 16.2 | 35.2 | 8.1 | 11.8 | 6.5 | 8.6 | 16.7 | 7.4 | 4.2 | 7.4 |
| 1982 | 16.2 | 34.0 | 8.6 | 11.9 | 6.6 | 8.7 | 17.7 | 7.0 | 4.3 | 7.3 |
| 1983 | 16.3 | 33.9 | 9.1 | 11.5 | 6.5 | 9.1 | 18.1 | 7.5 | 4.1 | 7.2 |
| 1984 | 16.1 | — | — | — | 6.3 | 8.5 | — | — | — | 5.9 |
| 1985 | 17.0 | 36.0 | 9.5 | 12.7 | 5.6 | 10.1 | 21.5 | 8.6 | 4.2 | 6.1 |
| 1986 | 16.7 | 32.9 | 8.3 | 14.1 | 6.9 | 10.6 | 20.2 | 8.3 | 4.1 | 7.0 |
| 1987 | 16.7 | 32.9 | 8.8 | 12.8 | 7.4 | 10.7 | 19.6 | 9.0 | 3.9 | 7.0 |
| 1988 | 16.8 | 32.4 | 9.8 | 12.2 | 8.2 | 10.8 | 19.2 | 9.0 | 4.7 | 6.7 |
| 1989 | 16.7 | 32.8 | 10.0 | 11.5 | 7.7 | 11.4 | 20.2 | 10.2 | 4.0 | 6.7 |
| 1990 | 16.5 | 33.1 | 8.8 | 12.5 | 7.2 | 11.6 | 19.8 | 10.8 | 4.0 | 7.2 |
| 1991 | 16.7 | 33.0 | 9.2 | 12.4 | 7.3 | 11.7 | 20.6 | 10.5 | 3.5 | 7.1 |

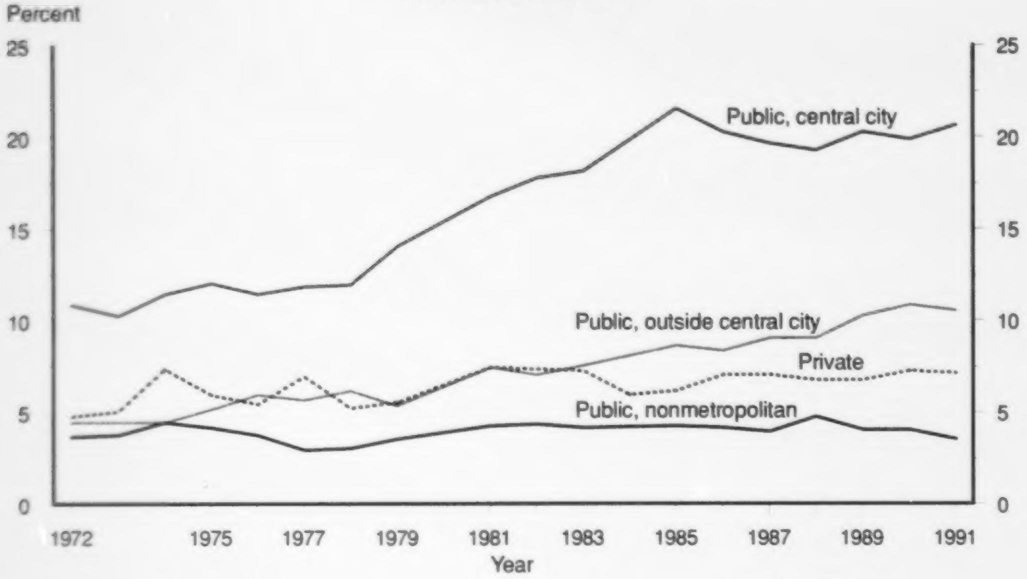
— Not available.

NOTE: Control not available in 1980. Residence of students not available in 1984. The definition of metropolitan areas in the U.S. was changed in 1985.

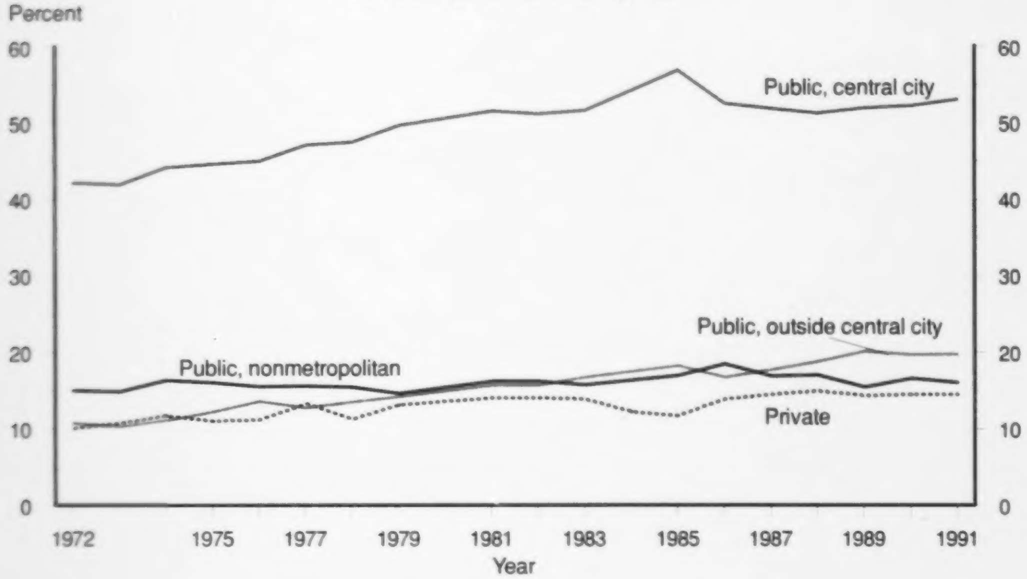
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "School Enrollment ...," various years; October Current Population Surveys.

## Race and ethnicity of students in grades 1 to 12, by metropolitan status and control of school: 1972–1991

### Percentage Hispanic



### Percentage black or Hispanic



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "School Enrollment...," various years, October Current Population Surveys.

## Racial and ethnic distribution of college students

- **The college student body has become increasingly heterogeneous since the mid-1970s. Minority students increased from a little over 15 percent of enrollment in 1976 to nearly 21 percent in 1991.**
- **Hispanics and Asians increased as a percentage of college students throughout the period from 1976 to 1991, but American Indians' share of enrollment remained the same.**
- **Following a period of decline, the black share of enrollment has risen since 1988.**
- **In 1991, blacks made up 9 percent, Hispanics 6 percent, Asians 4 percent, and American Indians 1 percent of enrolled students.**
- **Minority students make up a higher proportion of the student body at 2-year than at 4-year institutions and at public than at private institutions.**

*Colleges and universities want diversity in their student body—variety in the backgrounds and interests of students enhances the learning environment. The racial/ethnic mix of college students is one aspect of student diversity. Changes in the racial/ethnic composition of college enrollment suggest changes in the needs, interests, and backgrounds of the student body.*

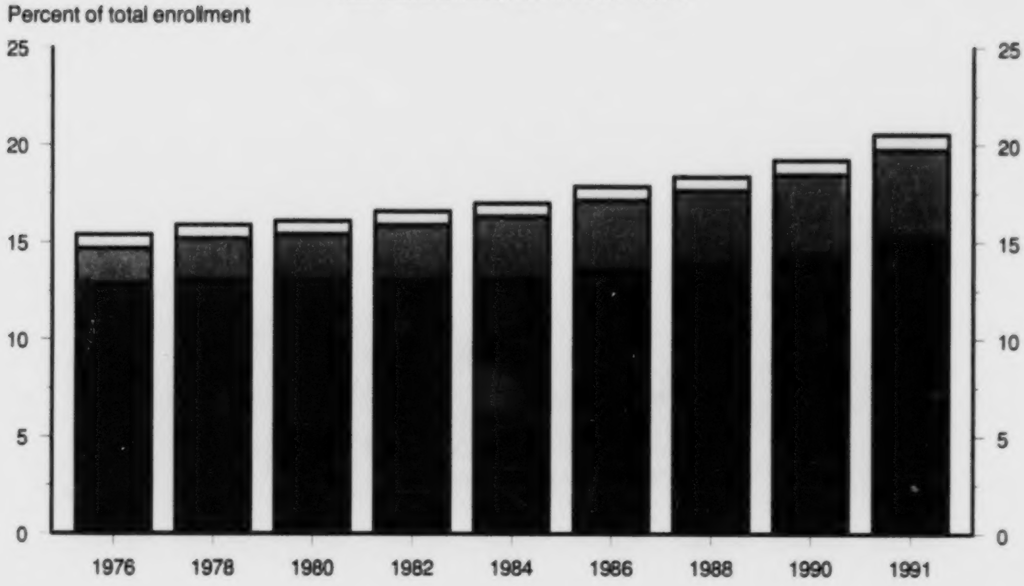
### Percentage of total enrollment in higher education institutions, by race/ethnicity: Fall 1976–1991

| | | Minority | | | | | |
|---|---|---|---|---|---|---|---|
| Fall of year and type of institution | White | Total minority | Black | Hispanic | Asian | American Indian | Nonresident alien |
| | | | | **All institutions, by fall of year** | | | |
| 1976 | 82.6 | 15.4 | 9.4 | 3.5 | 1.8 | 0.7 | 2.0 |
| 1978 | 81.9 | 15.9 | 9.4 | 3.7 | 2.1 | 0.7 | 2.2 |
| 1980 | 81.4 | 16.1 | 9.2 | 3.9 | 2.4 | 0.7 | 2.5 |
| 1982 | 80.7 | 16.6 | 8.9 | 4.2 | 2.8 | 0.7 | 2.7 |
| 1984 | 80.2 | 17.0 | 8.8 | 4.4 | 3.2 | 0.7 | 2.7 |
| 1986 | 79.3 | 17.9 | 8.7 | 4.9 | 3.6 | 0.7 | 2.8 |
| 1988 | 78.8 | 18.4 | 8.7 | 5.2 | 3.8 | 0.7 | 2.8 |
| 1990 | 77.9 | 19.2 | 8.9 | 5.5 | 4.0 | 0.7 | 2.9 |
| 1991 | 76.5 | 20.6 | 9.3 | 6.0 | 4.4 | 0.8 | 2.9 |
| | | | | **By type and control of institution: Fall 1991** | | | |
| Public | 76.2 | 21.3 | 9.3 | 6.6 | 4.6 | 0.9 | 2.4 |
| Private | 77.6 | 17.7 | 9.2 | 4.1 | 4.0 | 0.4 | 4.6 |
| 4-year | 78.0 | 18.1 | 8.7 | 4.4 | 4.4 | 0.6 | 3.9 |
| 2-year | 74.3 | 24.4 | 10.2 | 8.6 | 4.5 | 1.1 | 1.3 |

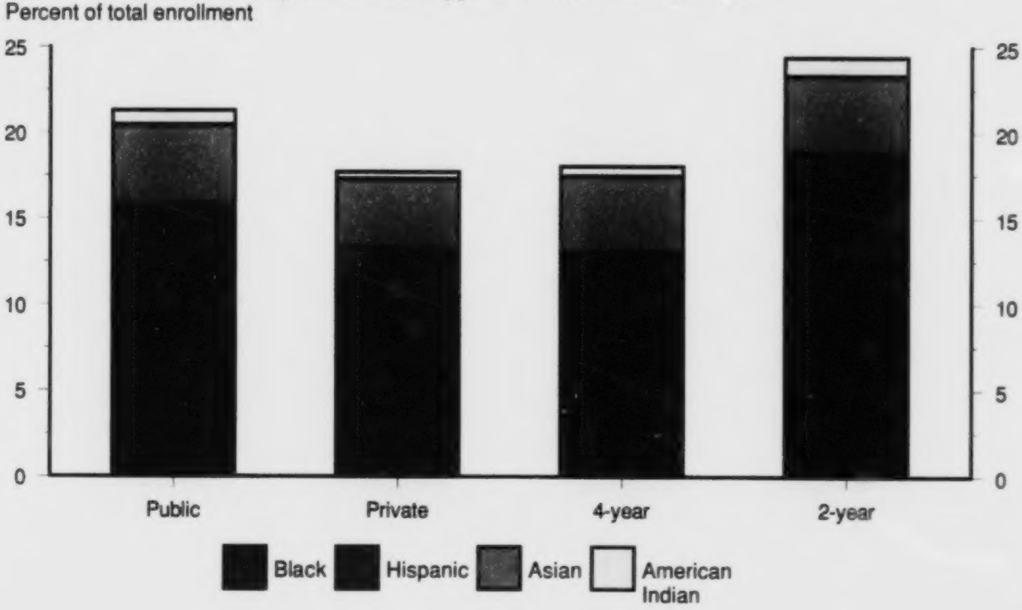
NOTE: Detail may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of fall enrollment, various years.

## Minority enrollment in institutions of higher education: Fall 1976–1991



All institutions: Fall 1976–1991



By control and type of institution: Fall 1991

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of fall enrollment, various years.

## Family background and enrollment choices of postsecondary students

- **In the fall of 1989, the family background of postsecondary students was strongly associated with the type of institution the student was attending.**
- **The percentage of students who attended private, for-profit and public 2-year colleges is negatively associated with the mother's highest level of education—higher percentages of students attending these types of institutions associated with less-educated mothers. Conversely, the percentage of students who attended public or private, nonprofit Ph.D-granting colleges and universities is postively associated with the mother's education level. The percentage attending public 4-year colleges which do not have Ph.D-granting programs was not associated with the mother's educational attainment.**
- **In the fall of 1989, dependent students from low income families were more likely to be enrolled in a public 2-year college than in the other types of institutions shown in the table. Those from high income families were most likely to be enrolled in a public 4-year, Ph.D-granting institution.**

*Postsecondary students from different family backgrounds enroll in institutions of various types, which have different missions or purposes, at varying rates. The less association we see between family background and enrollment in institutions of various types, the closer the nation is to achieving equality of educational opportunity.*

**Percentage of undergraduate postsecondary students enrolled in different types of institutions, by mother's highest level of education and for dependent students by their family's income: Fall 1989**

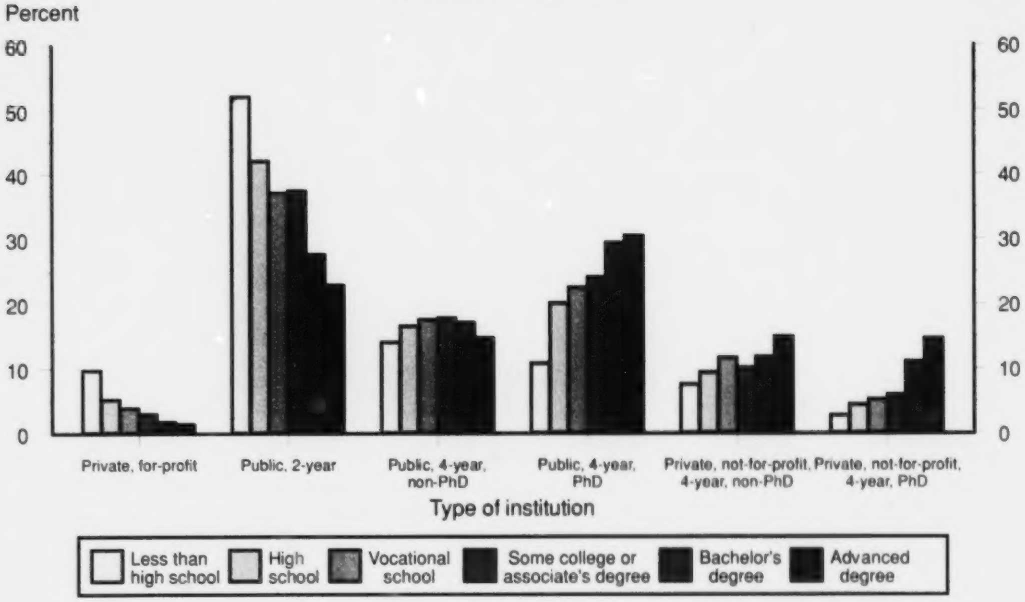
| | | Public | | | | Private, nonprofit | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 4-year | | | 4-year | |
| | Private, for-profit | Less than 2-year | 2-year | non-Ph.D | Ph.D | 2-year or less | non-Ph.D | Ph.D |
| Total | 6.1 | 1.0 | 39.7 | 15.8 | 20.4 | 1.3 | 9.9 | 5.9 |
| Mother's highest education level | | | | | | | | |
| Not a high school graduate | 9.7 | 1.9 | 52.1 | 14.1 | 10.8 | 1.3 | 7.5 | 2.7 |
| High school graduate | 5.2 | 1.0 | 42.1 | 16.6 | 20.1 | 1.2 | 9.4 | 4.4 |
| Vocational or trade school | 3.9 | 0.8 | 37.1 | 17.5 | 22.5 | 1.4 | 11.6 | 5.2 |
| Some college or associate's degree | 3.0 | 0.6 | 37.5 | 17.8 | 24.1 | 1.1 | 10.1 | 5.9 |
| Baccalaureate degree | 1.8 | 0.4 | 27.6 | 17.1 | 29.4 | 0.9 | 11.8 | 11.1 |
| Advanced degree | 1.4 | 0.3 | 22.8 | 14.7 | 30.5 | 0.9 | 14.9 | 14.6 |
| Dependent students' family income | | | | | | | | |
| Low | 6.9 | 0.7 | 30.1 | 19.1 | 22.9 | 1.4 | 12.6 | 6.3 |
| Lower middle | 3.6 | 0.9 | 30.8 | 19.9 | 26.8 | 1.4 | 10.8 | 5.9 |
| Upper middle | 2.8 | 0.3 | 26.3 | 20.2 | 29.0 | 1.2 | 12.6 | 7.8 |
| High | 1.4 | 0.2 | 20.9 | 16.1 | 32.1 | 1.0 | 14.2 | 14.2 |

NOTE: The categories of family income are based on dependent students' family income. Low income is defined as the lowest 25 percent of family incomes; lower middle as the next 25 percent; upper middle as the next 25 percent; and high as the top 25 percent of family incomes.

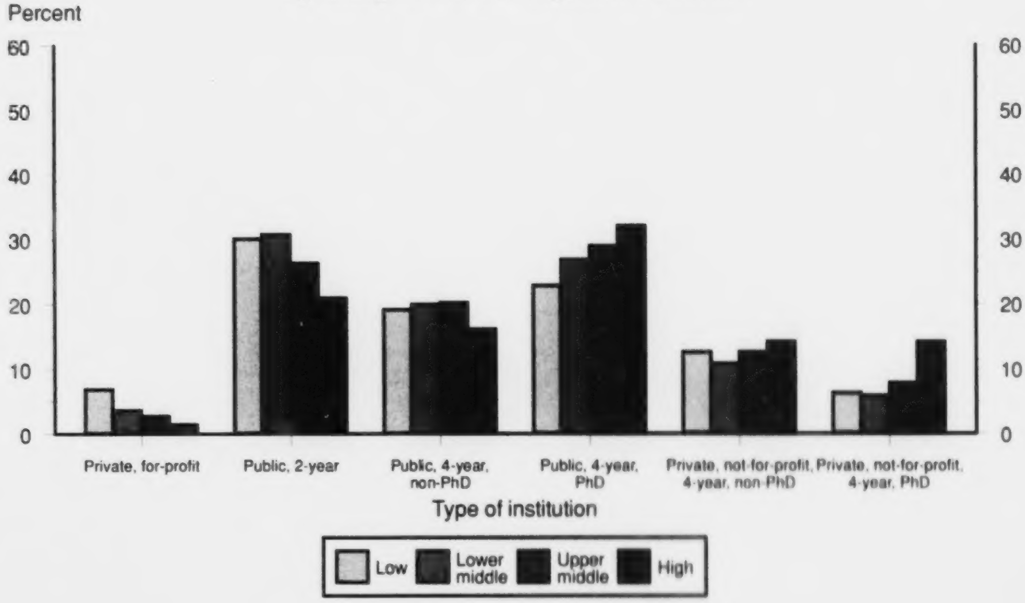
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Percentage of undergraduate postsecondary students enrolled in different types of institutions: Fall 1989

By mother's education



By family income for dependent students



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Time spent doing homework and watching television

- **Generally, 13-year-old students do more homework than 17-year-old students, girls do more homework than boys, and students at private schools do more homework than students at public schools.**
- **Between 1982 and 1986, the percentage doing at least 1 hour of homework and the percentage watching at least 3 hours of television increased for each age group.**
- **In 1990, about half of 17-year-olds and two-thirds of 13-year-olds reported watching at least 3 hours of television each day—a decline from the comparable percentages for 1986.**
- **In 1990, 40 percent of 17-year-olds whose parents were college graduates reported watching 3 or more hours of television each day compared to 62 percent of 17-year-olds with parents who had not completed high school.**

*School-aged children spend considerable time outside the classroom, and what they do during that time can have a meaningful impact on their performance inside the classroom. Time spent doing homework and watching television are indicators of parental involvement in their children's education, of teachers' expectations and of students' motivations to do well in school. However, the reader should consider that older students engage in a wider variety of activities outside the home than younger students, including after-school jobs and extracurricular activities.*

### Percentage of students who reported doing at least one hour of homework each day, by age and sex, control of school and parents' highest level of education: 1978–1990

| | | Sex | | Control of school | | Parents' highest level of education | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Total | Male | Female | Public | Private | Less than high school | Graduated high school | More than high school | Graduated college |
| | | | | **13-year-olds** | | | | | |
| 1982 | 39.6 | 35.2 | 44.0 | 37.9 | 53.3 | 33.8 | 35.4 | 39.5 | 47.0 |
| 1986 | 74.1 | 70.8 | 77.3 | 73.8 | (*) | 68.7 | 73.4 | 75.4 | 76.7 |
| 1990 | 70.8 | 64.5 | 76.9 | 69.2 | 84.2 | 60.4 | 66.1 | 72.5 | 76.3 |
| | | | | **17-year-olds** | | | | | |
| 1978 | 32.5 | 26.8 | 37.7 | 31.6 | 47.9 | 26.0 | 28.3 | 32.2 | 40.3 |
| 1982 | 37.4 | 31.4 | 43.1 | 36.2 | 51.1 | 29.0 | 33.7 | 38.7 | 45.2 |
| 1986 | 66.8 | 58.4 | 74.8 | 66.0 | (*) | 62.6 | 64.6 | 63.7 | 71.9 |
| 1990 | 66.0 | 57.4 | 74.1 | 64.9 | (*) | 55.5 | 61.5 | 65.0 | 72.3 |

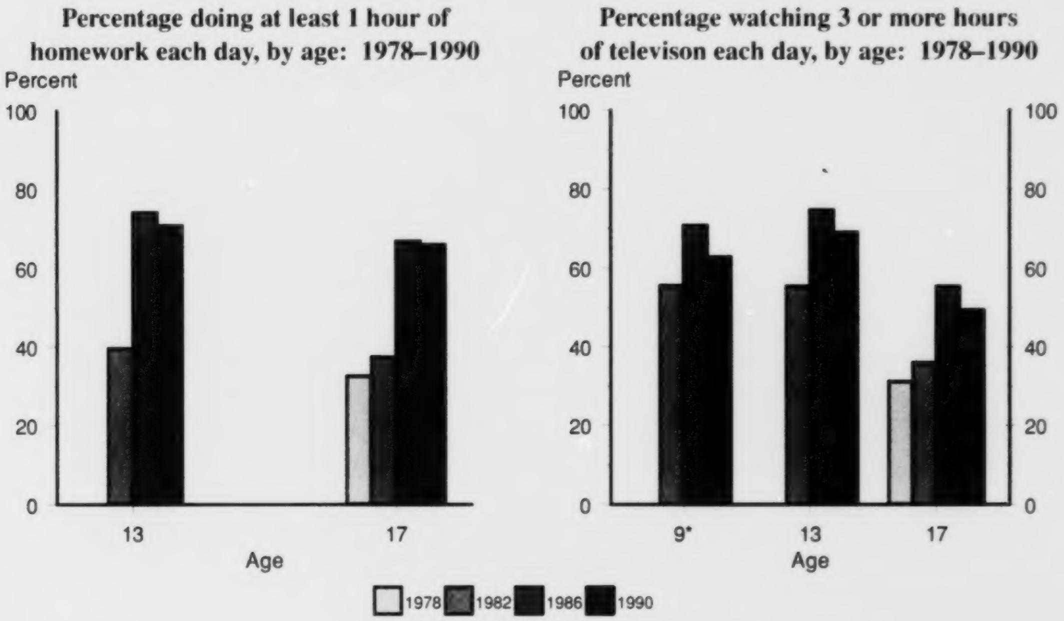
### Percentage of students who reported watching at least three hours of television each day by age and sex, control of school and parents' highest level of education: 1978–1990

| | | Sex | | Control of school | | Parents' highest level of education | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Total | Male | Female | Public | Private | Less than high school | Graduated high school | More than high school | Graduated college |
| | | | | **13-year-olds** | | | | | |
| 1982 | 55.4 | 58.0 | 52.8 | 56.3 | 48.0 | 62.7 | 59.7 | 52.9 | 46.8 |
| 1986 | 74.7 | 75.4 | 74.0 | 75.1 | (*) | 79.7 | 74.2 | 79.8 | 66.6 |
| 1990 | 69.0 | 70.5 | 67.3 | 70.0 | 59.4 | 75.3 | 66.7 | 68.7 | 62.8 |
| | | | | **17-year-olds** | | | | | |
| 1978 | 31.2 | 32.9 | 29.6 | 31.8 | 22.0 | 39.1 | 34.8 | 30.5 | 23.8 |
| 1982 | 36.0 | 39.0 | 33.1 | 36.7 | 27.5 | 44.8 | 41.0 | 32.2 | 28.1 |
| 1986 | 55.4 | 56.7 | 54.1 | 56.7 | (*) | 70.8 | 64.0 | 55.0 | 44.9 |
| 1990 | 49.4 | 53.1 | 45.8 | 50.6 | (*) | 61.5 | 55.5 | 52.0 | 40.1 |

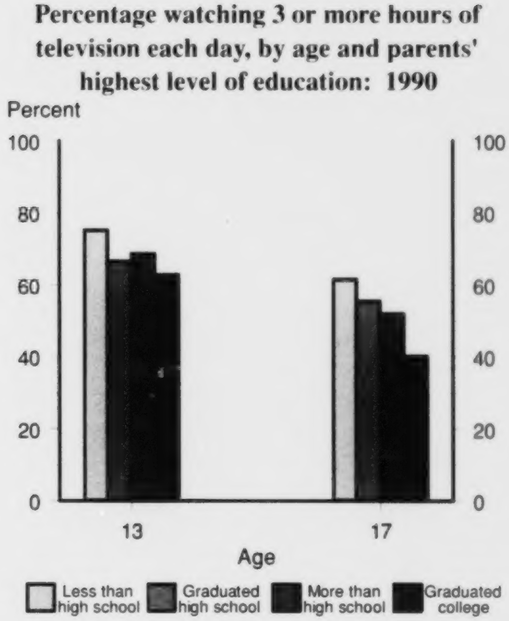
(*) Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–1990.

## Time spent watching television and doing homework


**Percentage doing at least 1 hour of homework each day, by age: 1978–1990**

**Percentage watching 3 or more hours of televison each day, by age: 1978–1990**


**Percentage watching 3 or more hours of television each day, by age and parents' highest level of education: 1990**

*Data appears in supplemental table 46-3.
SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–1990.

## Participation in school decision making

- **In 1991, secondary school teachers more often indicated having considerable influence over decisions concerning instruction within their classrooms than over school-level policies regarding student discipline, student tracking, and overall curriculum and staff development.**
- **Private school teachers were more likely than public school teachers to perceive themselves having complete control over classroom decisions and a great deal of influence over school policies.**
- **In regard to setting discipline policy, secondary school principals perceived themselves as being highly influential more frequently than boards, teachers, or parents. On the other hand, principals rarely reported parent associations as having a lot of influence.**
- **Private school principals were far more likely to perceive themselves as highly influential than were public school principals.**

*One aspect bearing on the climate and responsiveness of a school is the extent to which teachers, administrators, and parents participate in making decisions about important school policies and issues. Contemporary educational philosophy is sharply divided over the degree to which each group ought to control and influence the decision-making process.*

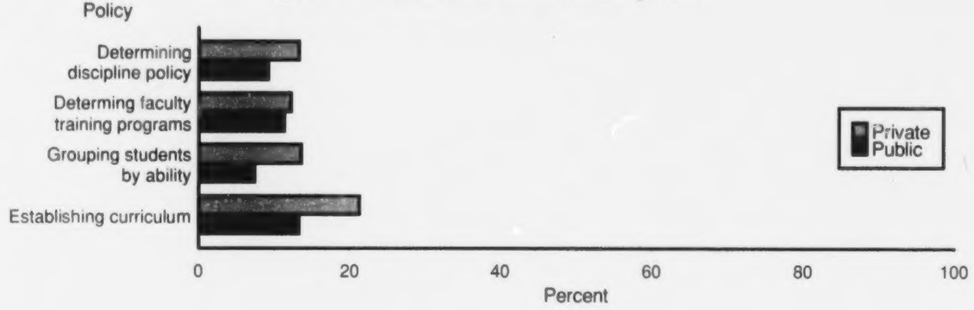
**Secondary school teachers' and principals' perceptions of decision making for selected school and classroom decisions, by control of school and type of community: 1990–91**

| | | | Public schools | | | |
|---|---|---|---|---|---|---|
| | | | | Type of community | | |
| Decisions | All schools | Private schools | Total | Rural/ small town | Urban fringe/ large town | Central city |
| Percentage of teachers reporting faculty having a great deal of influence over school policies: | | | | | | |
| Determining discipline policy | 10 | 13 | 9 | 9 | 9 | 11 |
| Determining content of faculty training programs | 12 | 12 | 11 | 10 | 13 | 12 |
| Grouping students by ability | 8 | 14 | 8 | 7 | 7 | 8 |
| Establishing curriculum | 14 | 21 | 13 | 16 | 13 | 11 |
| Percentage of teachers reporting themselves having complete control over classroom decisions: | | | | | | |
| Selecting textbooks | 34 | 50 | 33 | 40 | 28 | 25 |
| Selecting course content and topics | 36 | 50 | 35 | 40 | 31 | 30 |
| Selecting teaching techniques | 62 | 76 | 61 | 64 | 59 | 59 |
| Grading students | 62 | 70 | 62 | 63 | 61 | 61 |
| Disciplining students | 35 | 48 | 34 | 34 | 34 | 35 |
| Determining amount of homework | 68 | 74 | 67 | 69 | 66 | 66 |
| Percentage of principals reporting group having a great deal of influence over: | | | | | | |
| Establishing curriculum | | | | | | |
| State Department of Education | 34 | — | 34 | 35 | 36 | 32 |
| School board | 18 | 8 | 19 | 15 | 23 | 26 |
| Principal | 26 | 63 | 22 | 25 | 20 | 15 |
| Teachers | 26 | 39 | 24 | 26 | 25 | 18 |
| Parent association | 1 | 0 | 1 | 1 | 1 | 1 |
| Setting discipline policy | | | | | | |
| State Department of Education | 7 | — | 7 | 6 | 8 | 9 |
| School board | 34 | 10 | 36 | 33 | 39 | 43 |
| Principal | 58 | 81 | 56 | 60 | 54 | 46 |
| Teachers | 25 | 34 | 24 | 25 | 22 | 23 |
| Parent association | 2 | 1 | 2 | 2 | 3 | 4 |

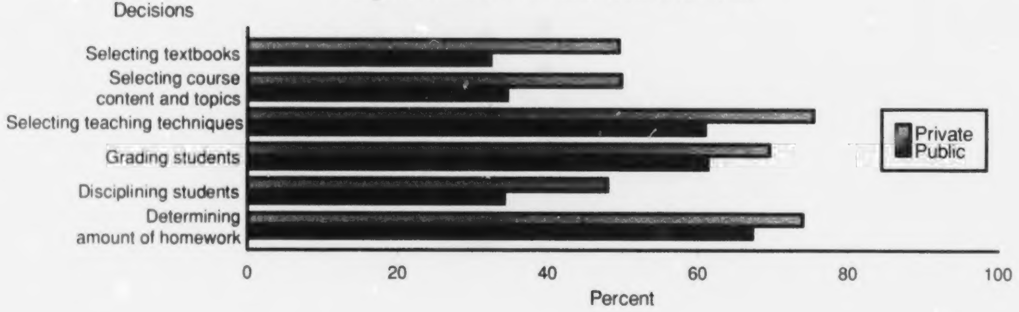
— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

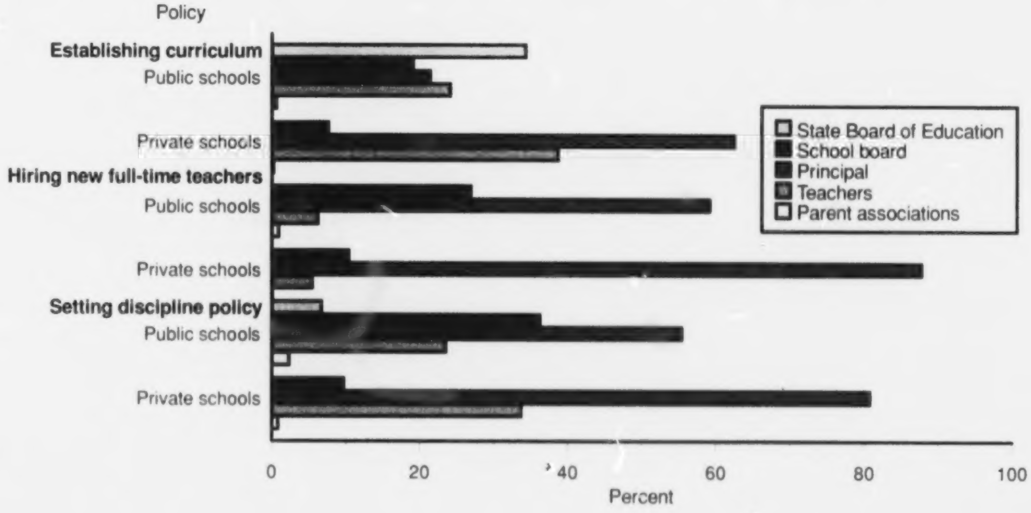
## Secondary school teachers' and principals' perceptions of decision making for selected school and classroom decisions, by control of school and type of community: 1990–91



Percentage of teachers reporting faculty having a great deal of influence over school policies:



Percentage of teachers reporting themselves having complete control over classroom decisions:



Percentage of principals reporting group having a great deal of influence over:

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Programs and services offered by schools

- **During school year 1990–91, public school students were more likely than private school students to be in a school that had certain programs targeted to diverse students with special needs—bilingual education, English as a second language, programs for the handicapped or for the gifted and talented, and diagnostic and prescriptive services (supplemental table 48-1).**
- **Fourth graders in public schools with few disadvantaged youth (five percent or less receiving free lunch) were more likely to have programs for the gifted and talented, diagnostic and prescriptive services, and extended day programs offered in their schools than their counterparts in public schools with a high level of student poverty (more than 40 percent receiving free lunch).**

> *As schools undertake to serve increasingly diverse student bodies, they are providing more than just basic skills education aimed at the average student. However, the programs and services that a particular school offers are a function of the resources available to the school as well as the needs of the students.*

- **The percentage of public school students who have various programs and services available to them varies widely by state. For example, about 40 percent of the students in Massachusetts, North Dakota, and Vermont are in schools offering programs for the gifted and talented, compared to over 98 percent of the students in Arkansas and Virginia (supplemental table 48-4).**

**Percentage of 4th grade students in schools offering various programs or services, by control, urbanicity, and percent of students receiving free lunch in school: School year 1990–91**

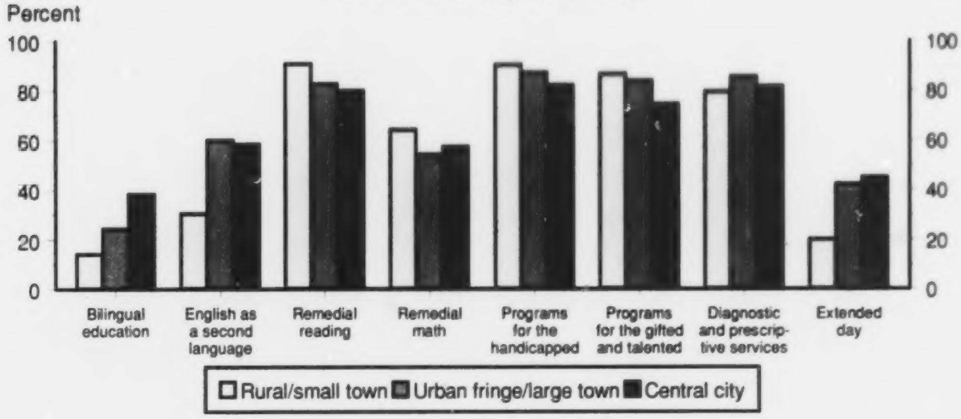
| Urbanicity and percent of students receiving free lunch | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| | | | | **Public schools** | | | | |
| Total | 24.3 | 47.9 | 85.0 | 59.0 | 86.8 | 82.1 | 82.0 | 34.3 |
| Rural/small town | 14.0 | 30.4 | 90.7 | 64.1 | 90.3 | 86.5 | 79.4 | 20.0 |
| Urban fringe/large town | 24.3 | 60.1 | 82.6 | 54.2 | 87.0 | 84.0 | 85.6 | 42.2 |
| Central city | 38.2 | 58.4 | 80.0 | 57.3 | 82.0 | 74.3 | 81.6 | 44.9 |
| Percent of students receiving free lunch | | | | | | | | |
| 0–5 | 14.2 | 59.9 | 81.5 | 46.8 | 83.2 | 91.3 | 88.9 | 52.3 |
| 6–20 | 14.5 | 45.8 | 84.2 | 51.1 | 85.2 | 83.8 | 87.2 | 34.8 |
| 21–40 | 18.0 | 42.6 | 84.4 | 60.2 | 89.8 | 85.4 | 78.1 | 30.6 |
| 41+ | 37.6 | 49.3 | 86.5 | 65.2 | 86.3 | 76.1 | 79.6 | 32.5 |
| | | | | **Private schools** | | | | |
| Total | 4.2 | 12.8 | 64.7 | 47.6 | 16.5 | 31.5 | 49.0 | 52.9 |
| Rural/small town | 2.9 | 8.2 | 66.4 | 45.6 | 20.0 | 34.0 | 46.8 | 27.7 |
| Urban fringe/large town | 3.8 | 12.6 | 64.1 | 48.8 | 14.9 | 31.8 | 51.5 | 51.6 |
| Central city | 5.0 | 14.9 | 64.4 | 47.6 | 16.2 | 30.1 | 48.1 | 64.1 |

NOTE: See supplemental table 48-1 for programs and services offered at schools enrolling kindergarten, 8th, and/or 12th grade students and supplemental note to *Indicator 48* for an explanation of the above programs and services.

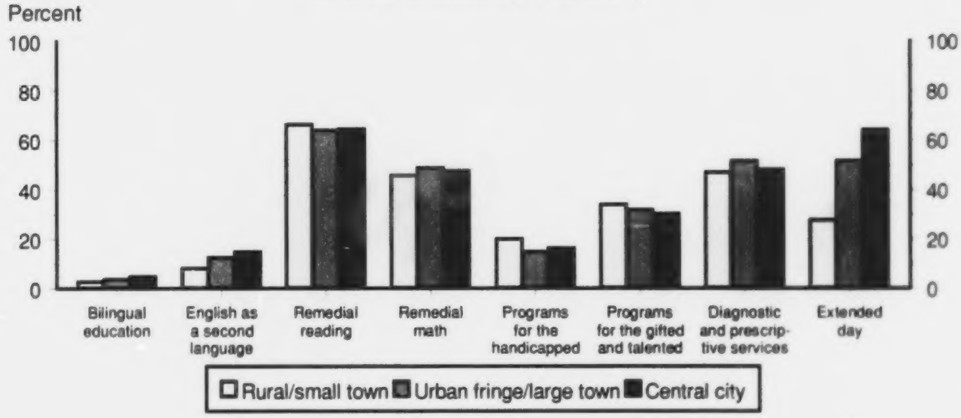
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Percentage of 4th grade students in schools offering services and programs: School year 1990–91

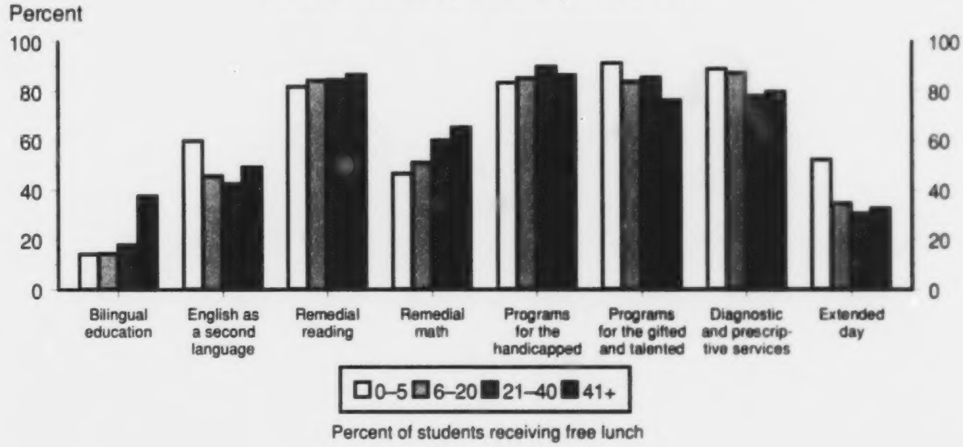
Public schools, by urbanicity



Private schools, by urbanicity



Public schools, by student poverty level



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Time in the classroom

- **The average amount of time 13-year-old students spent in instruction during 1990-91 school year ranged from 875 hours in Japan to 1,177 hours in Taiwan. Students in the United States spent over 1,000 hours exposed to instruction, slightly more than their counterparts in Canada, England, Italy, Korea, and Germany.**
- **Public and private school students in the United States spend about the same amount of time in school.**
- **The average amount of time public school students spent in school varied a great deal across states, from around 1,100 hours in Hawaii and Maine to around 1,250 hours in Mississippi. This 150 hour difference could amount to almost 5 weeks of instruction (supplemental table 49-3).**

> *The approach taken toward the instruction of youth varies both between and within countries. The amount of time students are exposed to material is one indicator of students access to learning opportunities. But how effectively classroom time is used has the greatest influence on student learning.*

### Instructional time in the classroom of 13-year-olds, by country: School year 1990–91

| Larger countries | Average days per year | Average hours per day | Average hours per year |
|---|---|---|---|
| Canada | 188 | 5.1 | 953 |
| England | 192 | 5.0 | 960 |
| France | 174 | 6.2 | 1,073 |
| Germany | 210 | 4.6 | 966 |
| Italy* | 204 | 4.8 | 983 |
| Japan | 220 | 4.0 | 875 |
| Korea | 222 | 4.4 | 977 |
| Taiwan | 222 | 5.3 | 1,177 |
| United States | 178 | 5.6 | 1,003 |

### Amount of time spent in school by U.S. students, by level, urbanicity, and control of school: School year 1990–91

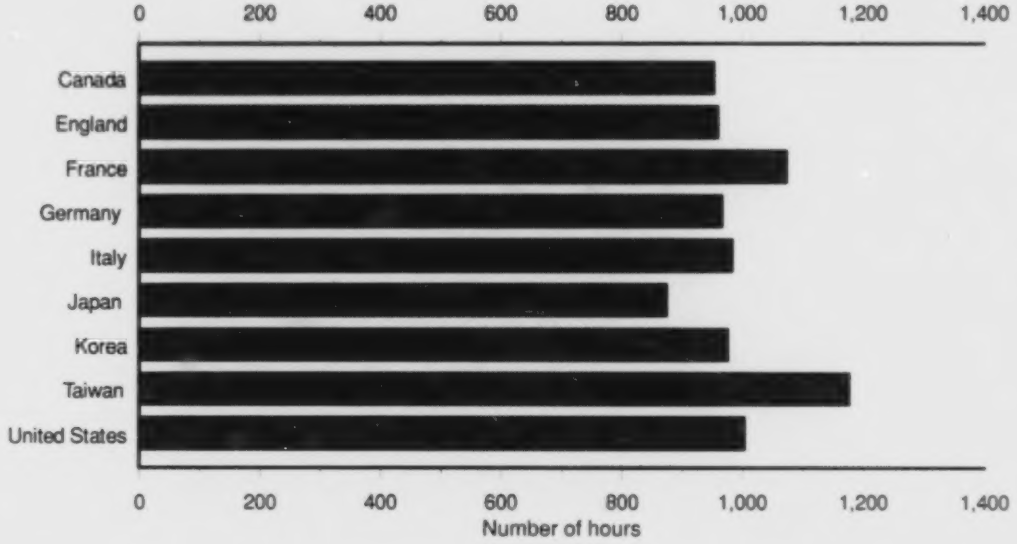
| Level and urbanicity | Public | | | Private | | |
|---|---|---|---|---|---|---|
| | Average days per year | Average hours per day | Average hours per year | Average days per year | Average hours per day | Average hours per year |
| Total | 180 | 6.4 | 1,154 | 180 | 6.5 | 1,163 |
| Elementary | 179 | 6.4 | 1,148 | 179 | 6.4 | 1,147 |
| Secondary | 180 | 6.5 | 1,171 | 181 | 6.7 | 1,205 |
| Combined | 183 | 6.4 | 1,168 | 181 | 6.6 | 1,186 |
| Rural/small town | 179 | 6.5 | 1,167 | 179 | 6.5 | 1,167 |
| Urban fringe/large town | 181 | 6.3 | 1,142 | 180 | 6.4 | 1,161 |
| Central city | 180 | 6.3 | 1,142 | 180 | 6.5 | 1,163 |

*Data for Italy refers to the province of Emilia-Romagna only.

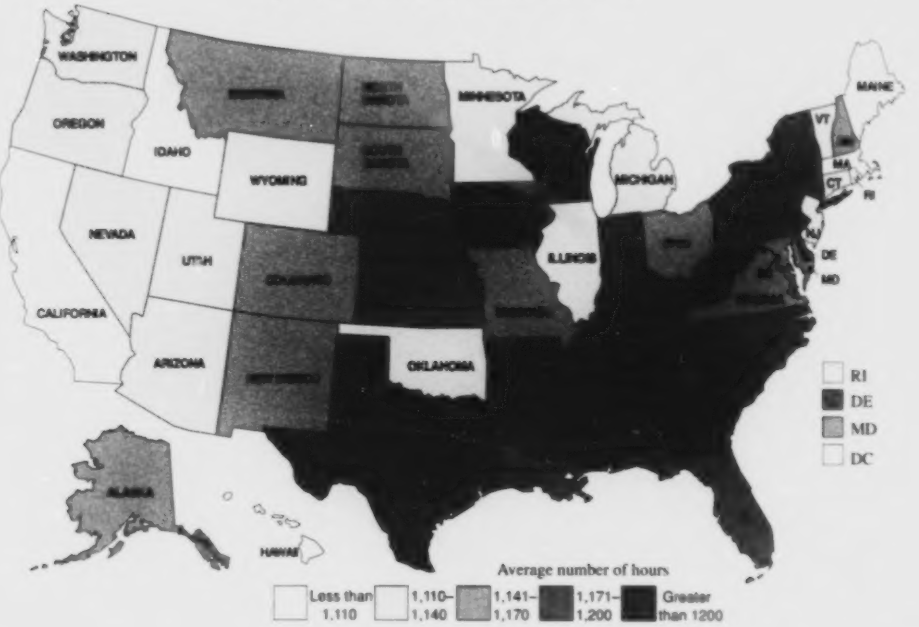
NOTE: *Instructional time in the classroom* and the *amount of time spent in school* are not the same. The first is a measure of the time per day students spend exposed to educational instruction, while the second a measure of the length of the school day, which includes lunch-time, recess, etc. These two measures should not be directly compared. See supplemental table 49-1 for the source of data for individual countries.

SOURCE: Educational Testing Service, International Assessment of Educational Progress. Ministry of Education, Science, and Culture, Government of Japan. The International Association for the Evaluation of Educational Achievement. U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91

## Average number of hours of classroom instruction in a school year, by country: 1990–91



## Average number of hours students spent in public school, by state: 1990–91


WASHINGTON
OREGON
IDAHO
WYOMING
MINNESOTA
MAINE
VT
MA
CT
RI
MICHIGAN
NEVADA
UTAH
ILLINOIS
DE
MD
CALIFORNIA
ARIZONA
OKLAHOMA
ALASKA
HAWAII
RI
DE
MD
DC
Average number of hours
Less than 1,110
1,110–1,140
1,141–1,170
1,171–1,200
Greater than 1200

SOURCE: Educational Testing Service, International Assessment of Educational Progress. Ministry of Education, Science and Culture, Government of Japan. The International Association for the Evaluation of Educational Achievement. U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Crime in the schools

*Research on effective schools has identified a safe and orderly environment as a prerequisite for promoting student academic success. Lack of school safety can reduce school effectiveness, inhibit student learning, and place students who are already at risk for school failure for other reasons in further jeopardy. In recent years, educators and policymakers have voiced growing concern about possible increases in the incidences of school-related criminal behavior.*

- **Between 1976 and 1991, blacks were both more likely to be theatened with and more likely to be injured with a weapon in school than whites. In 1991, for example, about 1 in 10 black and about 1 in 19 white high school seniors reported being injured with a weapon at school. However, there were few other differences in the in-school victimization rates of black and white high school seniors over this period.**
- **For blacks, in most crime categories, there was little increase in the victimization rate between 1976 and 1991, except for something being stolen. In most crime categories whites did experience some increase in victimization.**
- **In 1991, of those high school seniors reporting being victimized, the most frequently reported type of victimization was having had something stolen (approximately 4 in 10). The least frequently reported type of victimization was having been injured with a weapon (nearly 1 in 19). About 1 in 4 reported that their property had been deliberately damaged or that they were threatened without a weapon.**

**Percentage of high school seniors reporting being victimized in school, by type of victimization, and by race/ethnicity: 1976–1991**

| | Something stolen from you[1] | | Property deliberately damaged | | Injured you with a weapon[2] | | Threatened you with a weapon[2] | | Injured you without a weapon[2] | | Threatened you without a weapon[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1976 | 38.9 | 35.9 | 25.1 | 30.1 | 5.0 | 7.8 | 11.4 | 16.3 | 13.2 | 14.3 | 21.2 | 24.2 |
| 1977 | 40.4 | 32.8 | 24.3 | 21.0 | 4.0 | 8.1 | 11.0 | 19.7 | 10.6 | 11.4 | 20.2 | 24.2 |
| 1978 | 38.8 | 32.4 | 25.7 | 21.2 | 3.9 | 7.2 | 11.2 | 13.3 | 11.5 | 14.4 | 20.4 | 17.5 |
| 1979 | 34.6 | 27.2 | 24.5 | 20.8 | 4.0 | 8.1 | 11.1 | 16.5 | 11.7 | 9.8 | 20.3 | 17.9 |
| 1980 | 34.3 | 33.1 | 25.3 | 21.9 | 3.5 | 9.9 | 9.5 | 17.8 | 10.3 | 14.9 | 19.0 | 20.0 |
| 1981 | 40.1 | 39.2 | 30.4 | 29.8 | 5.1 | 13.4 | 13.4 | 23.7 | 13.8 | 19.1 | 23.6 | 25.0 |
| 1982 | 37.9 | 42.0 | 25.6 | 25.4 | 4.2 | 4.5 | 11.1 | 15.9 | 11.8 | 11.7 | 21.3 | 19.5 |
| 1983 | 39.4 | 39.2 | 25.0 | 23.1 | 4.3 | 5.6 | 11.9 | 14.8 | 13.4 | 13.2 | 23.9 | 24.5 |
| 1984 | 38.4 | 35.3 | 24.3 | 21.8 | 3.2 | 6.0 | 10.9 | 16.7 | 12.1 | 13.3 | 23.0 | 24.4 |
| 1985 | 39.3 | 35.2 | 26.6 | 28.0 | 5.4 | 8.9 | 11.6 | 22.6 | 13.6 | 18.2 | 24.5 | 25.2 |
| 1986 | 41.1 | 36.3 | 25.7 | 24.5 | 4.9 | 6.9 | 12.6 | 15.7 | 14.5 | 12.8 | 25.7 | 22.7 |
| 1987 | 42.1 | 39.4 | 27.0 | 25.0 | 4.4 | 5.6 | 11.2 | 17.5 | 15.4 | 15.4 | 25.4 | 20.2 |
| 1988 | 41.4 | 46.6 | 27.4 | 25.8 | 3.9 | 9.0 | 11.3 | 22.2 | 13.5 | 16.6 | 24.3 | 27.7 |
| 1989 | 39.4 | 46.4 | 26.0 | 28.9 | 4.9 | 11.3 | 12.0 | 24.1 | 13.7 | 17.8 | 24.5 | 21.0 |
| 1990 | 41.6 | 42.2 | 28.9 | 26.1 | 4.6 | 10.0 | 12.0 | 16.0 | 13.6 | 10.0 | 26.1 | 21.7 |
| 1991 | 41.4 | 44.3 | 28.4 | 24.6 | 5.3 | 9.6 | 15.7 | 20.2 | 15.4 | 17.1 | 26.5 | 27.5 |

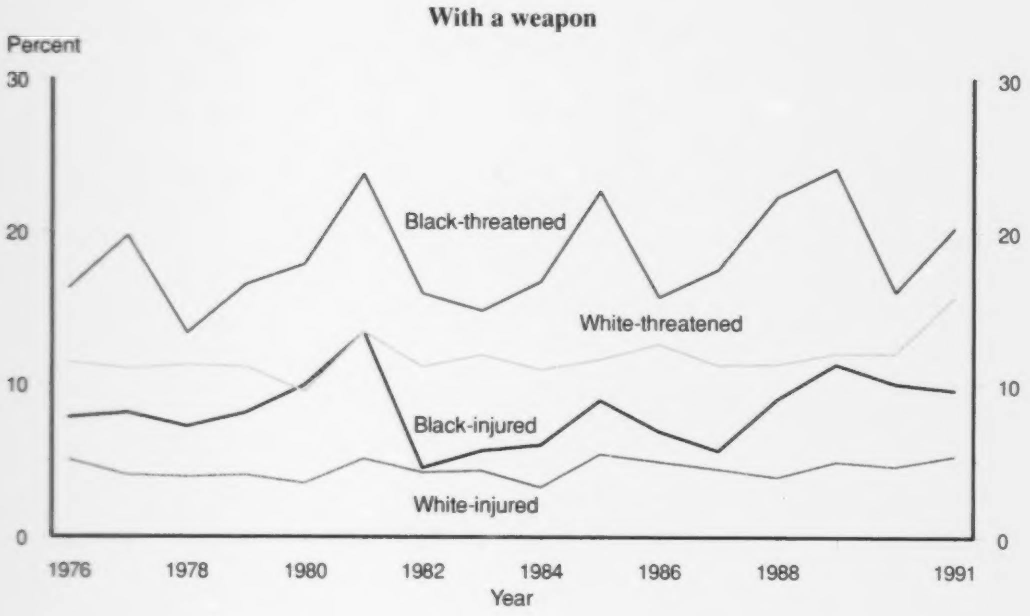
[1] The response category "something stolen from you" is comprised of two separate questions: 1) "Has something of yours (worth under $50) been stolen?", and 2) "Has something of yours (worth over $50) been stolen?" The responses to both questions have been collapsed in this category.

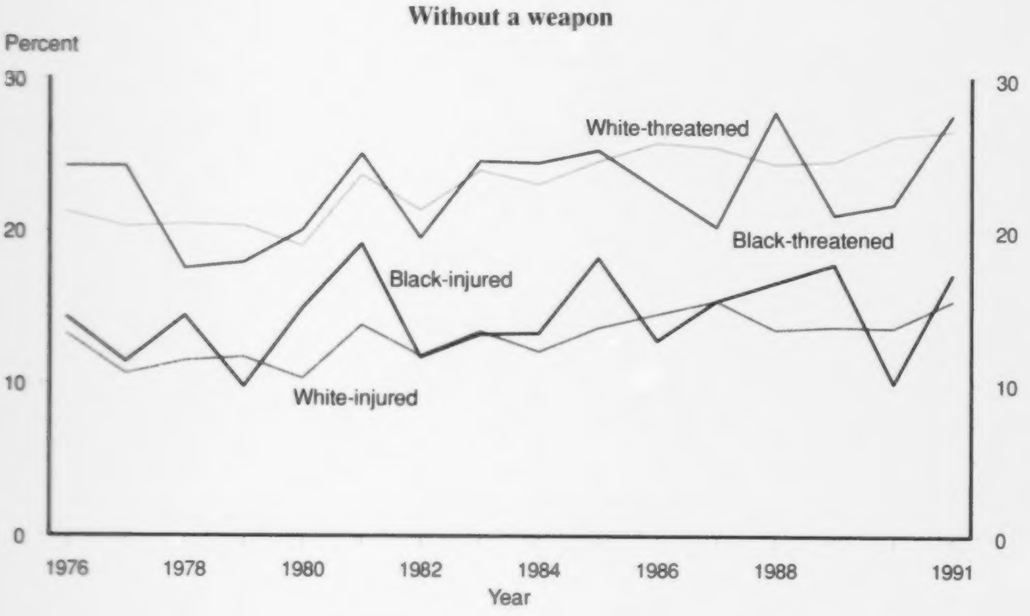
[2] The weapons category includes: knife, gun or club. The question was: "Has someone injured you with (or without) a weapon (like a Knife, Gun or Club)?"

NOTE: A regression analysis was used to determine trends over time between the races. Therefore, individual year differences between the races might be statistically different, while the trend over time is not.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations..

## Percentage of high school seniors reporting being victimized in school, by race/ethnicity: 1976–1991





SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations.

## Student contact with faculty at institutions of higher education

- **In 1988, the majority of student classroom-level contact with faculty at research, doctoral, and comprehensive institutions was with senior faculty—full professors and associate professors.**
- **At each type of institution, students in lower division courses had about the same amount of contact with senior faculty members as students in upper division courses, but were in significantly larger classes (supplemental table 51-1).**
- **Students in undergraduate courses at research institutions had more contact with senior faculty (but in larger classes—supplemental table 51-1) than students in undergraduate courses at comprehensive and liberal arts institutions.**
- **Within each type of institution, students in graduate courses generally had more contact with full professors than students in undergraduate courses.**

> *An institution's most experienced faculty are its senior faculty. They have more teaching, research, and administrative experience. More contact with these faculty may enhance the quality of the learning environment for students at colleges and universities. One measure of a student's contact with senior faculty is the percentage of a student's classroom time spent with full or associate professors.*

**Percentage of classroom hours college and university students spent with faculty of different ranks, by type of institution and course division: 1988**

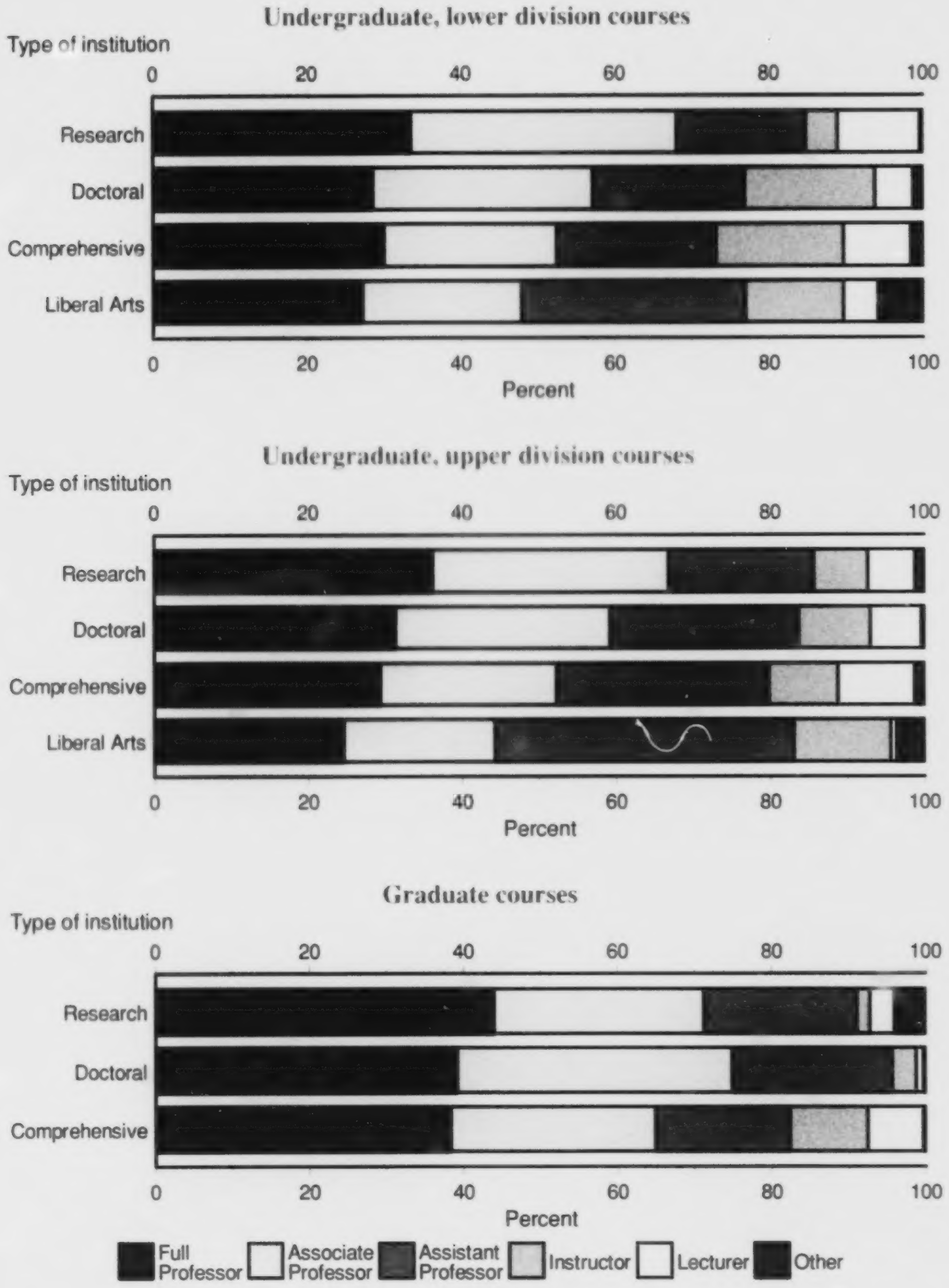
| | Faculty rank | | | | | |
|---|---|---|---|---|---|---|
| | Senior faculty | | | | | |
| Type of institution | Full Professor | Associate Professor | Assistant Professor | Instructor | Lecturer | Other |
| | | | Undergraduate, lower division courses | | | |
| Total | 30.4 | 26.3 | 20.5 | 12.8 | 8.1 | 1.9 |
| Research | 33.6 | 34.5 | 16.7 | 4.2 | 10.6 | 0.5 |
| Doctoral | 28.6 | 28.6 | 19.7 | 17.0 | 4.9 | 1.3 |
| Comprehensive | 30.1 | 22.4 | 20.6 | 16.6 | 8.7 | 1.7 |
| Liberal arts | 27.3 | 20.6 | 29.0 | 12.8 | 4.5 | 5.8 |
| | | | Undergraduate, upper division courses | | | |
| Total | 31.1 | 25.5 | 25.7 | 8.8 | 7.4 | 1.5 |
| Research | 36.2 | 30.6 | 18.9 | 7.0 | 6.1 | 1.3 |
| Doctoral | 31.4 | 27.8 | 24.5 | 9.3 | 6.6 | 0.6 |
| Comprehensive | 29.4 | 22.9 | 27.5 | 9.0 | 9.9 | 1.4 |
| Liberal arts | 24.6 | 19.7 | 38.8 | 12.6 | 0.7 | 3.7 |
| | | | Graduate courses | | | |
| Total | 41.5 | 28.7 | 19.4 | 4.3 | 3.8 | 2.3 |
| Research | 44.0 | 27.2 | 19.9 | 1.7 | 3.2 | 4.0 |
| Doctoral | 39.2 | 35.7 | 20.7 | 3.2 | 0.9 | 0.3 |
| Comprehensive | 38.3 | 26.6 | 17.5 | 10.1 | 7.2 | 0.3 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

(*) Too few sample observations for a reliable estimate.

NOTE: Total student classroom hours are calculated as the number of classroom hours per week times the number of students in each course summed over all courses, as reported by faculty members. The percentages are calculated as the sum of the classroom hours spent with faculty of a particular rank divided by total student classroom hours. See supplemental notes for definitions of faculty, institutions, and course divisions used. Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1988 National Survey of Postsecondary Faculty.

## Percentage of classroom hours students spent with faculty of different ranks, by type of institution and course division: 1988


Undergraduate, lower division courses

Undergraduate, upper division courses

Graduate courses

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1988 National Survey of Postsecondary Faculty.

# Human and Financial Resources of Educational Institutions

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The 1980s presented many fiscal challenges to schools, colleges, and universities, including challenges in more than half of the states to the constitutionality of systems of financing public elementary and secondary education; and, for postsecondary education a declining number of new high school graduates and declining support from state appropriations. Furthermore, calls to raise the quality of education grew as Americans increasingly felt the competitive pressure of the global marketplace and the decline in their economic prosperity.

**Financial Resources**

The United States invests a substantial amount in education. This investment can be measured in a variety of ways to facilitate comparison over time, across countries, and between sectors. Two types of measures are presented below: revenues from public sources for a level of education, divided by the number of students enrolled at that level (whether or not the institution they are enrolled in is publicly controlled); and the effort index, which is the ratio of the first measure to income per capita.

*Per student.* In 1992, revenues from public sources to support elementary and secondary education were about $5,000 per student. This measure of resources per student varied widely across states from lows of about $3,000 in Mississippi and $3,100 in Arkansas to highs of about $7,000 in New York, $7,900 in New Jersey, and over $8,600 in Alaska (Table 52-3). Within states, there is additional variation which is the subject of lawsuits challenging the constitutionality of state education financing systems. Public revenues for higher education, in 1990, were about $4,700 per student (Table 52-2).

*Effort.* Part of the variation among states may be due to differences in cost of living and salaries across states. For example, in 1991, personal income per capita was $13,700 and $15,200 in Mississippi and Arkansas, respectively and it was $23,100, $26,200, and $22,600 in New York, New Jersey, and Alaska, respectively (Table 52-3). So an alternative measure of public investment in education expresses the previous measure as a percentage of personal income per capita. On this measure, Mississippi and Arkansas provided per student public spending for elementary and secondary education of 22 percent and 20 percent of personal income per capita, and New York, New Jersey, and Alaska provided 30, 30, and 38 percent, respectively. Whereas, New York and New Jersey were more than double Mississippi and Arkansas on the per student measure, they were about 50 percent more on the effort measure.

*Over time.* During the post World War II era, revenues from public sources for students in elementary and secondary schools have increased substantially every decade. They increased almost fivefold from $1,100 per student in 1950 to $5,000 per student in 1990 (adjusted for inflation). This trend is likely to have been driven by many factors. For example, the education system has assumed greater responsibility in many areas such as education of the handicapped. In addition, public policy has increased spending on children from poor households, has sought to increase the quality of education of minorities to a level comparable to that of the majority, and has sought to equalize funding for poor school districts. Furthermore, women are participating more broadly in the labor force. This has driven up the cost of education by forcing teacher salaries to be more competitive.

The ability of taxpayers to finance a larger education budget also increased over the decades, although not at the same rate as public revenue per student rose. Between 1950 and 1990, personal income per capita increased about 250 percent, whereas public revenues per student rose almost 500 percent. It could be said that U.S. taxpayers are making more of an effort to finance elementary and secondary public education. This is reflected in the increase in the national index (revenues for elementary and secondary education from public sources as a percentage of personal income per capita) over the last four decades. Revenues per student were 14 percent of personal income per capita in 1950 and 25 percent in 1990.

*Higher education.* In higher education per student revenues from public sources, excluding revenues for construction and direct student aid, increased during the 1950s and 1960s, but has been comparatively stable since then. Per student revenues from public sources increased from $2,600 in 1950 to $4,700 in 1990. Of all students enrolled in higher education, the percentage in public institutions grew during the post World War II period from about 50 percent in 1950 to about 79 percent in 1975 and has been stable since. Public higher education revenues per student were 32 percent of per capita income in 1950, 1960, and 1970 and then fell to 27 and 23 percent in 1980 and 1990, respectively.

*State sources.* In the past, public elementary and secondary schools were funded primarily from local sources. However, between 1979 and 1989, states were the largest single revenue source. In 1990, however, state and local sources each contributed 47 percent of revenues. The remaining 6 percent was provided from federal sources (Table 52-4).

**Human Resources**

The most important resource used in education is personnel. In 1991, in elementary and secondary education, there were 11 full-time-equivalent (FTE) staff per 100 students. Of these, 6 were classroom teachers and 3 were support staff, such as secretaries and bus drivers. The remaining 2 were principals, assistant principals, school district administrators, librarians, guidance counselors, and teacher aids (*Indicator 57*).

The cost of staff resources is determined not only by the number of staff employed but also by their salaries. Both teacher and faculty salaries rose during the 1980s. In 1992, the average annual salary of public elementary school teachers was about $34,300; for secondary school teachers it was $35,800, the highest levels (adjusted for inflation) during 1960–1992. Teacher salaries in public schools rose between 1960 and 1972, then fell until 1980, and have been rising since then. Average beginning teacher salaries did not rise as rapidly as average teacher salaries during the 1980s and was $23,000 in 1992. Teachers in private schools earn much less than their counterparts in public schools. For example, the average base salary for a full-time school teacher for the 1990–91 school year was $31,300 in public schools and $19,800 in private schools (Tables 58-3 and 58-4).

Although it is very difficult to assess the quality of a teacher based on easily measured qualities, many analysts argue that the education of teachers is very important. In particular, some believe that it is important that teachers take courses outside of education in the subjects that they are likely to teach. Generally the course-taking patterns for teachers graduating in 1985–86 were not markedly different from the average for all bachelor's degree recipients that year. A smaller percentage of teachers take calculus and economics and a larger percentage take geography and history than graduates as a whole. Fifty-six percent of science and math teachers took calculus and 43 percent took a foreign language; 52 percent of humanities and social science teachers took a foreign language, but only 24 percent took a course in economics and only 10 percent took calculus (*Indicator 60*). These difference, however, are not unlike differences between other majors. For example, 77 percent of natural science majors took calculus, and 53 percent took a foreign language; 56 percent of humanities majors took a foreign language and 16 percent took calculus (*Indicator 28*).

Faculty in higher education earn substantially more than elementary and secondary school teachers, reflecting in part the higher education levels required of faculty. In 1991, an assistant professor's salary was, on average, $34,200 at private 4-year colleges; $33,700 at public 2-year colleges; and $36,600 at public 4-year colleges. Full professors earned, on average, substantially more—$46,800 at public 2-year colleges and about $58,400 at 4-year colleges. Like teacher salaries, faculty salaries fell (in constant dollars) in the 1970s and rose in the 1980s, but, unlike teacher salaries, have not regained all the ground lost (*Indicator 59*).

## National index of public education revenues

- **Between the school years ending 1930 and 1972, the national elementary and secondary index increased 11.7 points from 10.6 to 22.3. Between school years ending 1972 and 1984, the index remained fairly stable. Since then, the index has increased 3 points to 25.5.**
- **In school year 1991–92, elementary and secondary per pupil revenues ranged from $3,007 in Mississippi to $8,639 in Alaska. The state index ranged from below 21 in Arkansas and Tennessee to above 34 in Alaska, Vermont, Wyoming and West Virginia (supplemental table 52-3).**

*The national index reflects monies raised to educate the average student relative to the taxpayer's ability to pay. The numerator is revenues per student, a measure of the resources available or services accorded to the average student. The denominator is personal income per capita, a measure of the average taxpayer's ability to pay.*

- **From a high of 34.3 points in 1966, the national higher education index declined to 23.1 in 1983 and has remained fairly stable since. With the exception of a drop in the early 1980s, higher education public revenues per student (in constant dollars) have been relatively stable since 1970.**

### National index of public revenues per student in relation to per capita personal income, by level: Selected school years ending 1930–1992

| School year ending | National index | | Public education revenue | | | | Per capita personal income[3] |
|---|---|---|---|---|---|---|---|
| | | | per student[1] | | as a percentage of GDP[2] | | |
| | Elementary/ secondary | Higher education | Elementary/ secondary | Higher education | Elementary/ secondary | Higher education | |
| 1930 | 10.6 | 22.5 | $604 | $1,281 | — | — | $5,689 |
| 1940 | 14.6 | 26.1 | 809 | 1,448 | — | — | 5,551 |
| 1950 | 13.9 | 31.9 | 1,130 | 2,597 | — | — | 8,153 |
| 1960 | 16.2 | 32.0 | 1,723 | 3,401 | 3.0 | 0.5 | 10,624 |
| 1966 | 18.2 | 34.3 | 2,300 | 4,352 | 3.6 | 0.8 | 12,671 |
| 1970 | 20.0 | 31.8 | 2,926 | 4,639 | 4.2 | 1.0 | 14,600 |
| 1972 | 22.3 | 30.6 | 3,325 | 4,558 | 4.6 | 1.1 | 14,908 |
| 1974 | 21.2 | 29.4 | 3,475 | 4,812 | 4.3 | 1.1 | 16,383 |
| 1976 | 22.9 | 28.5 | 3,618 | 4,497 | 4.5 | 1.3 | 15,780 |
| 1978 | 22.2 | 27.5 | 3,745 | 4,636 | 4.1 | 1.2 | 16,831 |
| 1980 | 21.5 | 26.5 | 3,754 | 4,635 | 3.9 | 1.2 | 17,464 |
| 1982 | 21.2 | 23.5 | 3,609 | 4,004 | 3.6 | 1.1 | 17,007 |
| 1984 | 22.5 | 23.4 | 3,864 | 4,032 | 3.7 | 1.1 | 17,209 |
| 1986 | 23.1 | 24.7 | 4,275 | 4,571 | 3.7 | 1.1 | 18,486 |
| 1988 | 23.3 | 24.2 | 4,515 | 4,681 | 3.7 | 1.1 | 19,335 |
| 1990 | 25.0 | 23.4 | 5,005 | 4,682 | 4.0 | 1.1 | 20,043 |
| 1992 | 25.5 | — | 5,010 | — | 4.1 | — | 19,683 |

—Not available.

[1] In constant 1992 dollars, using the average CPI for each school year.

[2] Gross Domestic Product is Gross National Product less net property income from abroad.

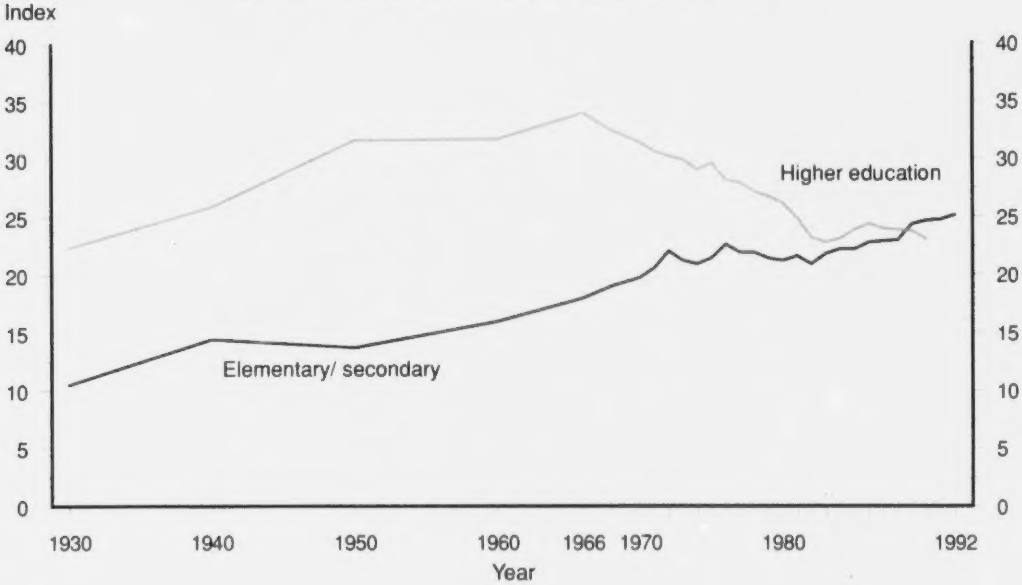
[3] For the calendar year in which the school year began, in constant 1992 dollars.

NOTE: For calculation of the national index and other values for this indicator, see supplemental note to *Indicator 52*. Public education revenues at the elementary and secondary level are revenues at public schools. For higher education, public education revenues are education and general revenue from federal, state, and local sources at public and private institutions. Enrollment is in all institutions, public and private. Data revised from previously published figures.

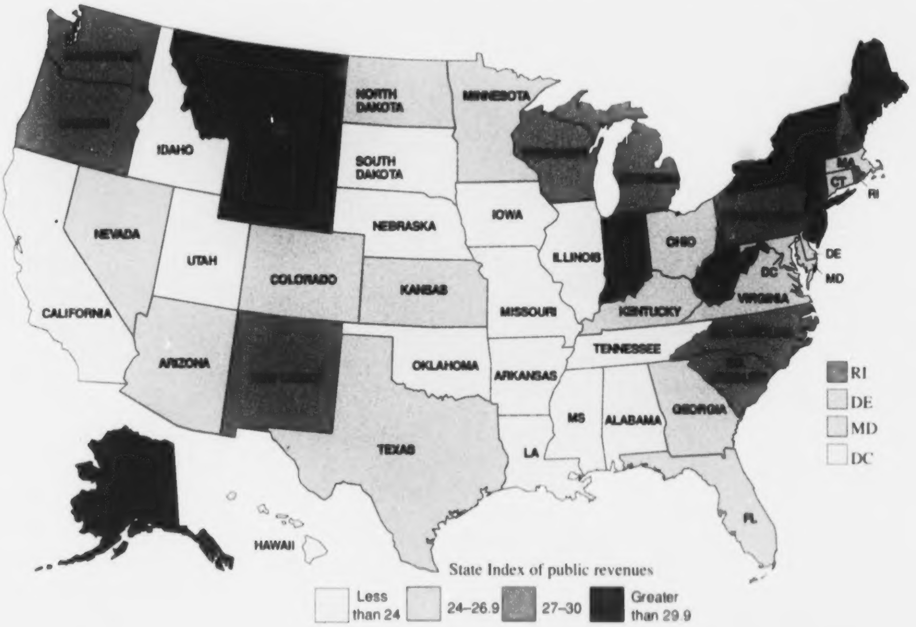
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Survey; Private School Survey; Biennial Survey of Education in the United States; and IPEDS/HEGIS Financial Statistics and Fall Enrollments surveys, various years. U.S Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, various years.

## National Index of public revenues per student in relation to per capita personal income

By level: Selected school years ending 1930–1992



Elementary and secondary education, by state: School year 1991–92


NORTH DAKOTA
MINNESOTA
IDAHO
SOUTH DAKOTA
NEBRASKA
IOWA
NEVADA
UTAH
COLORADO
KANSAS
ILLINOIS
OHIO
MISSOURI
KENTUCKY
VIRGINIA
CALIFORNIA
TENNESSEE
ARIZONA
OKLAHOMA
ARKANSAS
MS
ALABAMA
GEORGIA
TEXAS
LA
FL
HAWAII
MA
CT
RI
DE
DC
MD
RI
DE
MD
DC
State Index of public revenues
Less than 24
24–26.9
27–30
Greater than 29.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Survey; Private School Survey; Biennial Survey of Education in the United States; and IPEDS/HEGIS Financial Statistics and Fall Enrollments surveys, various years. U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, various years; Bureau of the Census, 1990 Census.

## International comparisons of *public* expenditures for education

- **Generally, among the G-7 countries only Canada showed a higher level of public education expenditure than the United States.**
- **Public expenditures for the 1988–89 school year in the United States were 0.2 percent of GDP for preprimary education, 3.4 percent for 1st–12th grade, and 1.1 percent for higher education. France and Italy spent a larger fraction for preprimary education, and only Canada expended a larger fraction than the United States for both 1st–12th grade and higher education.**
- **In grades 1–12, public expenditures per student in the G-7 countries ranged from $2,115 in Japan to $3,917 in the United States; in higher education, they ranged from $2,042 in Japan to $7,862 in the United Kingdom ($5,643 in the United States).**

*Public education expenditures are an indication of public investment in education. In the United States and other countries, there are additional private expenditures for education. Three alternative measures allow us to examine the magnitude of public investment in education. The first provides a measure of the fraction of a country's resources that are allocated to public education. The second provides a measure of the public investment in each child who is in the education system. The third provides a measure of public educational investment in each child compared to available resources per person in the country.*

### Current *public* expenditures for education, by country: School year 1988–89[1]

| | | | | Per student | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | As a percent of GDP[2] | | | Constant 1988–89 U.S. dollars[3] | | | as a fraction of GDP per capita | | |
| G-7 countries | Pre-primary | 1st–12th | Higher education | Pre-primary | 1st–12th | Higher education | Pre-primary | 1st–12th | Higher education |
| Canada[3] | — | 3.8 | 2.1 | — | 3,508 | 7,109 | — | 19.7 | 40.0 |
| France | 0.5 | 3.0 | 0.7 | 1,739 | 2,627 | 4,129 | 11.1 | 16.8 | 26.4 |
| West Germany | 0.2 | 2.4 | 0.8 | 985 | 2,750 | 5,185 | 6.0 | 16.8 | 31.7 |
| Italy | 0.3 | 3.1 | 0.6 | 1,663 | 2,868 | 4,007 | 11.7 | 20.3 | 28.3 |
| Japan | 0.1 | 2.5 | 0.3 | 550 | 2,115 | 2,042 | 3.7 | 14.1 | 13.6 |
| United Kingdom | 0.1 | 3.2 | 0.9 | 1,664 | 2,492 | 7,862 | 11.8 | 17.6 | 55.6 |
| United States | 0.2 | 3.4 | 1.1 | 3,077 | 3,917 | 5,643 | 15.7 | 20.0 | 28.9 |

—Not available.

[1] The fiscal year begins in different months in the above countries. See supplemental note to *Indicator 53* for how expenditures were adjusted.

[2] Gross Domestic Product is Gross National Product less net property income from abroad.

[3] Purchasing power parity indices (PPPI) were used to convert other currencies to U.S. dollars.

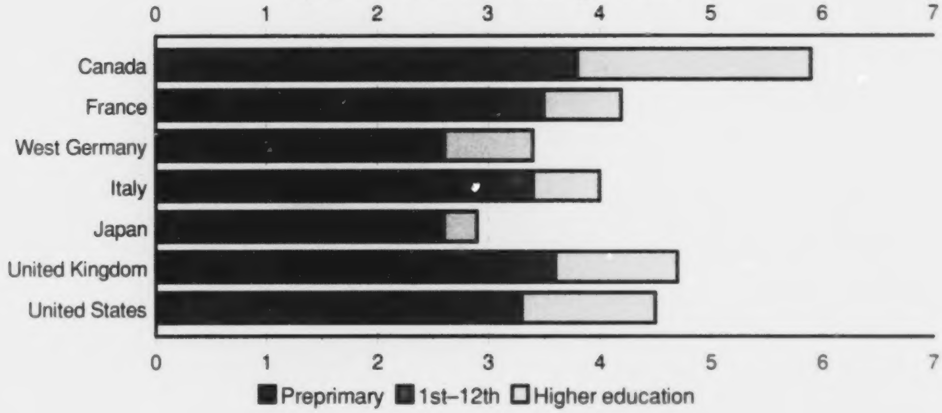
[3] Preprimary expenditures for Canada are grouped with elementary and secondary data.

NOTE: See supplemental tables 53-1 through 53–5 for additional expenditure data and the supplemental note to *Indicator 53* for a discussion of the data.

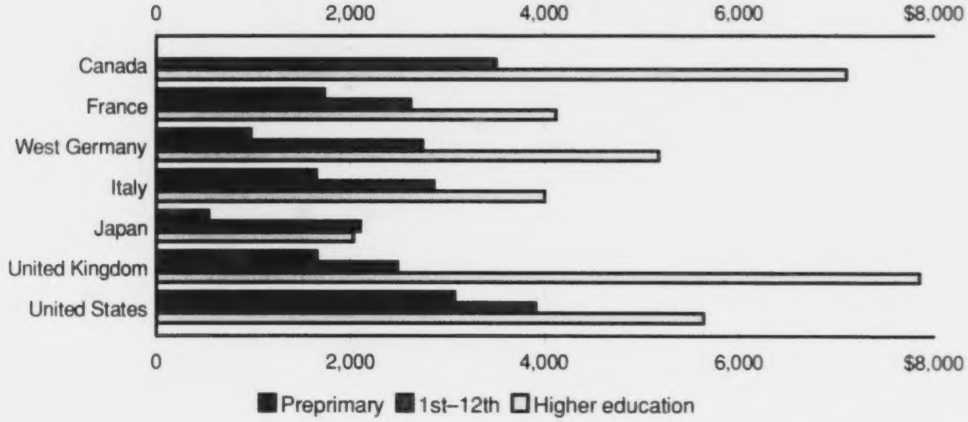
SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992.

## International comparison of public expenditures for education: 1988–89

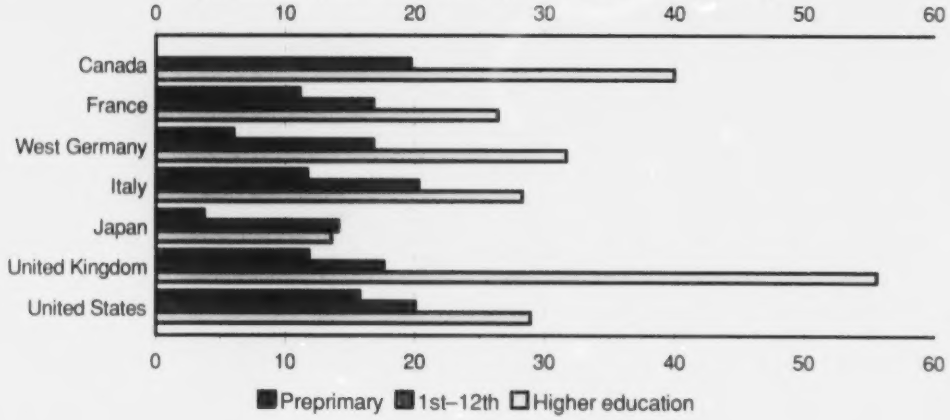
Expenditures as a percentage of GDP



Expenditures per student (1988–89 U.S. dollars)



Expenditures per student as a percent of GDP per capita



NOTE: Preprimary expenditures for Canada are grouped with elementary and secondary data.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992.

## Revenue of colleges and universities

- **In 1991, state and local appropriations were the largest source of funds for public institutions (53 percent) but a negligible source (1 percent) for private institutions.**
- **Private institutions depend on tuition and fees as the primary source of revenue—58 percent in 1991.**
- **The dependence on the primary source of revenue is stronger among 2-year institutions than among 4-year institutions. Public 2-year colleges received 67 percent of their revenue from state and local appropriations in contrast to 50 percent for public 4-year institutions. Private 2-year colleges received 80 percent of their revenue from tuition and fees in contrast to 58 percent for private 4-year institutions.**
- **In 1991, revenue from tuition and fees for all colleges was 5 percent greater (in constant dollars) than in 1990, and 89 percent greater than in 1976. The share of revenue from tuition and fees was 34 percent, up from 27 percent in 1976. In 1991, revenue from state and local appropriations was 2 percent lower (in constant dollars) than in 1990 (computed from supplemental table 54-1).**

*Many institutions of higher education are governed by localities or states primarily to serve their own populations. Many others are under private control, some religious and some independent. All are supported by the same array of funding sources, but to widely varying degrees. The amount contributed by each source is affected by a number of factors, including economic conditions, and by the perceptions of policymakers, benefactors, and students as to whether investments in higher education, be they in the form of taxes, gifts, or tuition payments, are yielding expected benefits—either to the country or themselves.*

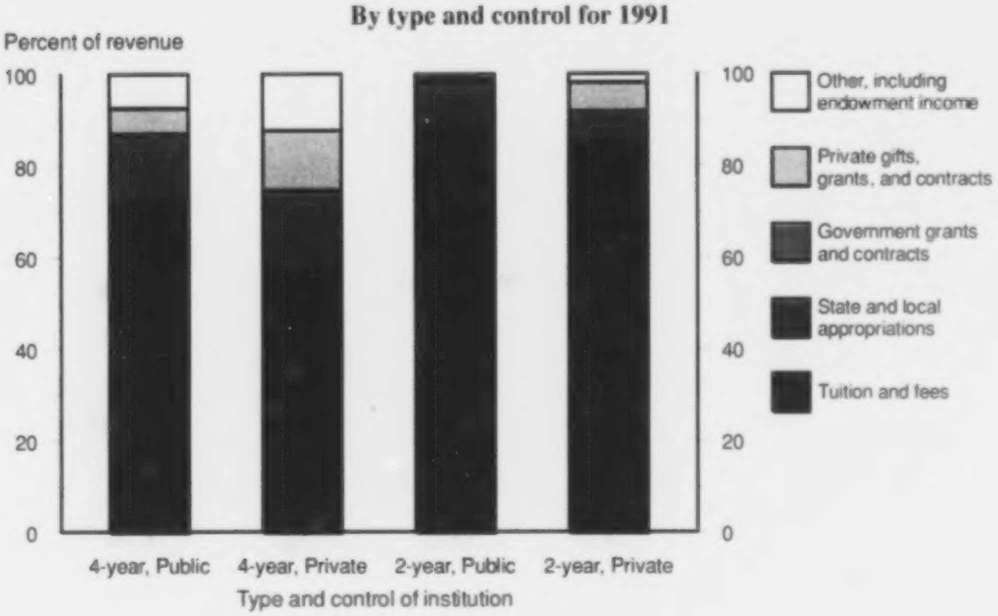
**Percentage distribution of sources of general education revenue of higher education institutions, by type and control of institution: Fiscal year 1991**

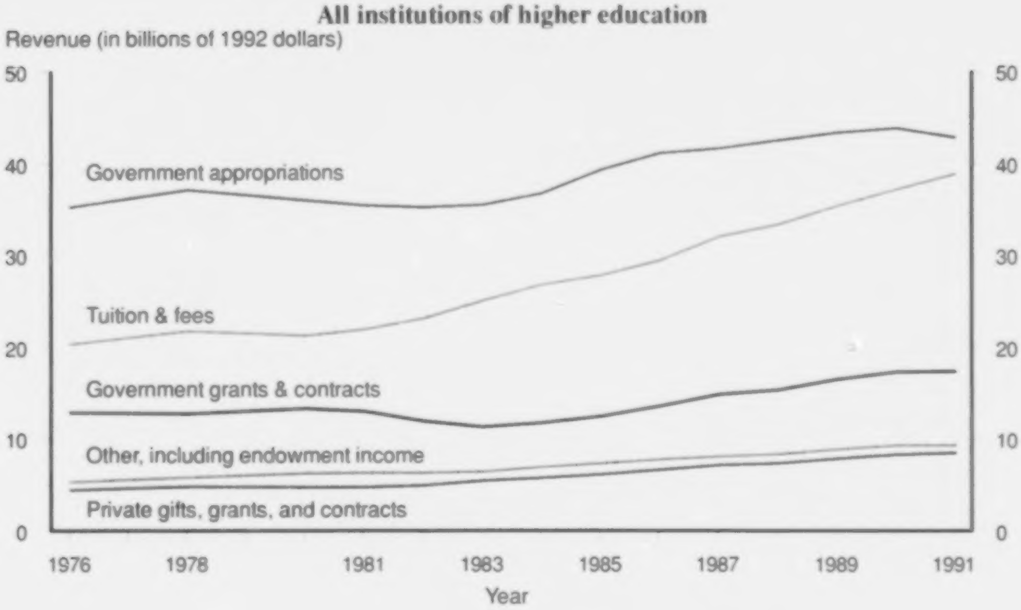
| | Type of institution | | |
|---|---|---|---|
| Revenue sources | All | 4-year | 2-year |
| | | Public institutions | |
| Total | 100.0 | 100.0 | 100.0 |
| Tuition and fees | 20.8 | 20.9 | 20.4 |
| Federal appropriations | 2.2 | 2.6 | 0.7 |
| State & local appropriations | 53.2 | 49.6 | 67.4 |
| Federal grants & contracts | 10.8 | 12.5 | 4.2 |
| State & local grants & contracts | 3.7 | 3.2 | 5.7 |
| Private gifts, grants, contracts | 5.0 | 6.0 | 0.9 |
| Endowment income | 0.6 | 0.7 | 0.1 |
| Sales & services of educational activities | 3.7 | 4.5 | 0.5 |
| | | Private institutions | |
| Total | 100.0 | 100.0 | 100.0 |
| Tuition and fees | 58.4 | 57.7 | 79.7 |
| Federal appropriations | 0.6 | 0.6 | 0.3 |
| State & local appropriations | 1.0 | 1.0 | 1.5 |
| Federal grants & contracts | 13.2 | 13.4 | 6.5 |
| State & local grants & contracts | 3.3 | 3.3 | 3.7 |
| Private gifts, grants, contracts | 12.4 | 12.6 | 5.9 |
| Endowment income | 7.5 | 7.7 | 1.4 |
| Sales & services of educational activities | 3.6 | 3.7 | 0.9 |

NOTE: See note to table 54-1 for information on revenue sources excluded from the totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1991 IPEDS Financial Statistics Survey.

## Sources of general education revenue for institutions of higher education, by type and control of institution: Selected fiscal years 1976–1991





SOURCE: U.S. Department of Education, National Center for Education Statistics, 1991 IPEDS Financial Statistics Survey.

## Growth of expenditures per student and tuition levels

- **At public universities, between 1981 and 1991, tuition charges increased by 36 percent (in constant dollars) while expenditures per full-time-equivalent (FTE) student for administration and research increased about the same amount and expenditures per FTE student for instruction increased 13 percent.**
- **At private universities during the same period, tuition charges increased 53 percent while expenditures for instruction increased 38 percent. Expenditures increased 45 percent for administration and 71 percent for institutionally based scholarships (supplemental table 55-2).**

*Rising college tuition levels are of considerable concern to policymakers, educators, students and their families. Why tuition continues to climb is a hotly debated subject. Comparison of the growth rate of expenditures per student in various categories is an indication of how the allocation of expenditures changed while total expenditures per student rose or fell.*

- **Tuition charges increased less at public 2-year colleges than at other public institutions (supplemental table 55-3). Instructional expenditures at public 2-year colleges increased about the same as at public 4-year colleges, but less than at public universities (supplemental table 55-1).**

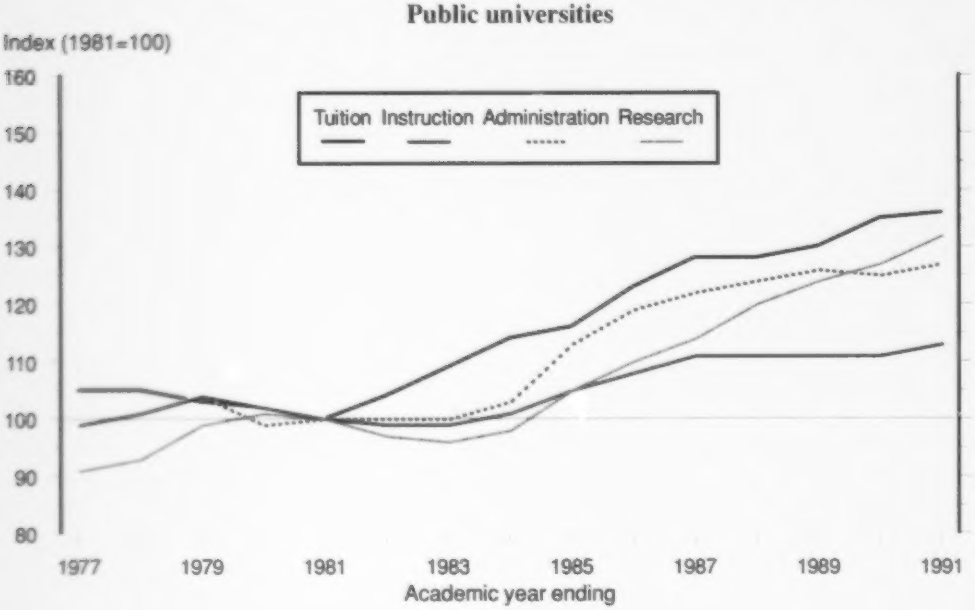
### Indices of selected expenditures per full-time-equivalent student and average undergraduate tuition charges (in constant dollars) at public and private universities: Academic years ending 1977–1991 (1981=100)

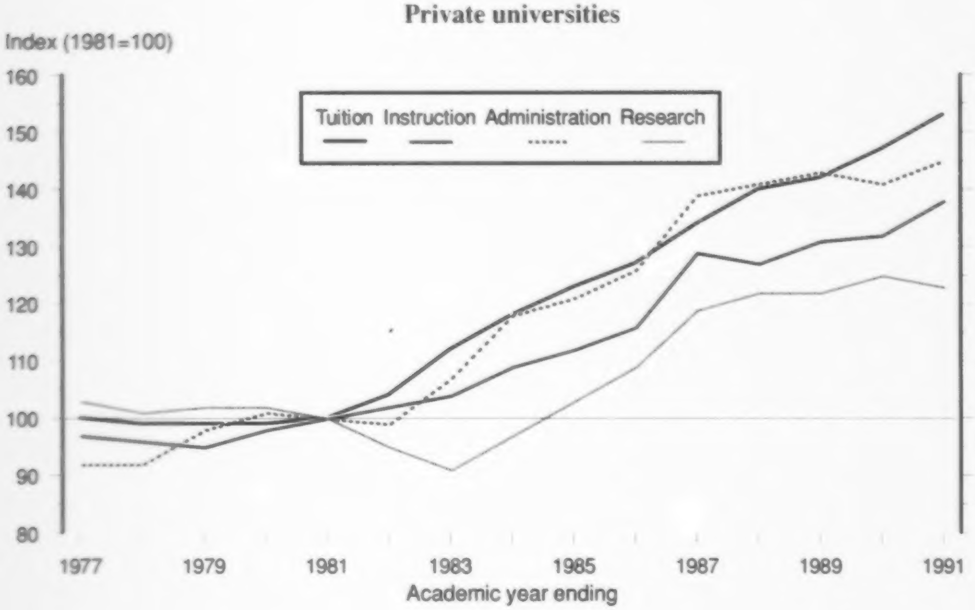
| | Public universities | | | | | Private universities | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Expenditures | | | | | Expenditures | | | |
| Academic year ending | Tuition charges | Total | Instruction | Administration | Research | Tuition charges | Total | Instruction | Administration | Research |
| 1977 | 105 | 98 | 99 | 99 | 91 | 100 | 97 | 97 | 92 | 103 |
| 1978 | 105 | 99 | 101 | 101 | 93 | 99 | 96 | 96 | 92 | 101 |
| 1979 | 103 | 103 | 104 | 104 | 99 | 99 | 97 | 95 | 98 | 102 |
| 1980 | 102 | 102 | 102 | 99 | 101 | 99 | 99 | 98 | 101 | 102 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 104 | 99 | 99 | 100 | 97 | 104 | 100 | 102 | 99 | 95 |
| 1983 | 109 | 98 | 99 | 100 | 96 | 112 | 101 | 104 | 107 | 91 |
| 1984 | 114 | 101 | 101 | 103 | 98 | 118 | 108 | 109 | 118 | 97 |
| 1985 | 116 | 106 | 105 | 113 | 105 | 123 | 113 | 112 | 121 | 103 |
| 1986 | 123 | 110 | 108 | 119 | 110 | 127 | 117 | 116 | 126 | 109 |
| 1987 | 128 | 112 | 111 | 122 | 114 | 134 | 128 | 129 | 139 | 119 |
| 1988 | 128 | 115 | 111 | 124 | 120 | 140 | 129 | 127 | 141 | 122 |
| 1989 | 130 | 117 | 111 | 126 | 124 | 142 | 131 | 131 | 143 | 122 |
| 1990 | 135 | 117 | 111 | 125 | 127 | 147 | 133 | 132 | 141 | 125 |
| 1991 | 136 | 120 | 113 | 127 | 132 | 153 | 137 | 138 | 145 | 123 |

NOTE: The Higher Education Price Index is used to convert expenditures to constant dollars and the Consumer Price Index is used to convert tuition charges to constant dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS Institutional Characteristics, Financial Statistics, and Fall Enrollment surveys.

## Indices of selected expenditures per full-time-equivalent student and average undergraduate tuition charges (in constant dollars) at public and private universities: Academic years ending 1977–1991





SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS Institutional Characteristics, Financial Statistics, and Fall Enrollment surveys.

## Source of student financial aid among full-time undergraduate and postbaccalaureate students

- **The percentage of full-time undergraduate and postbaccalaureate students receiving federal aid declined between 1986 and 1989, but the average amount of such aid, adjusted for inflation, increased.**
- **Federal aid remains the primary source of aid for undergraduates at public and proprietary institutions and for first-professional degree students but is secondary to institutional aid among master's and doctor's degree students. Undergraduates at private, nonprofit institutions receive federal and institutional aid to the same extent.**
- **The average amount of institutional aid, adjusted for inflation, increased between 1986 and 1989 for doctor's degree students.**

*Student financial aid enhances the ability of postsecondary institutions to serve students from all types of economic backgrounds. The percentage of students who receive federal and state student financial aid and the average amount received indicate how important student aid is as a source of revenue for these institutions.*

### Full-time students receiving financial aid, by source of aid, degree level, and control of institution: Fall 1986 and 1989

| Control of institution and level of degree | Percent receiving | | | | | | Average amount received[2] (1992 dollars) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Federal | | State | | Institutional | | Federal | | State | | Institutional | |
| | 1986 | 1989 | 1986 | 1989 | 1986 | 1989[1] | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 |
| | | | | | | **Undergraduate students** | | | | | | |
| Total | 46.6 | 41.9 | 20.6 | 21.1 | 22.8 | 20.9 | $3,581 | $3,774 | $1,577 | $1,613 | $2,575 | $2,809 |
| Public | 39.9 | 34.8 | 18.3 | 19.1 | 15.9 | 13.8 | 3,137 | 3,208 | 1,112 | 1,249 | 1,648 | 1,626 |
| Private, nonprofit | 55.5 | 49.4 | 30.7 | 30.6 | 49.4 | 48.7 | 4,193 | 4,582 | 2,336 | 2,235 | 3,482 | 3,914 |
| Private, for-profit | 82.0 | 82.1 | 11.4 | 12.2 | 5.3 | 6.1 | 4,346 | 4,489 | 2,295 | 2,227 | 2,514 | 1,615 |
| | | | | | | **Postbaccalaureate students** | | | | | | |
| Total | 44.4 | 36.8 | 9.6 | 6.2 | 48.5 | 43.0 | $8,408 | $9,905 | $4,078 | $2,674 | $7,875 | $8,901 |
| Master's | 31.5 | 27.9 | 5.9 | 4.9 | 47.8 | 40.1 | 6,271 | 7,517 | 3,200 | 2,444 | 7,808 | 8,486 |
| Doctoral | 26.9 | 18.8 | 5.5 | 6.1 | 73.3 | 69.6 | 7,660 | 7,290 | 4,874 | 1,906 | 11,620 | 13,835 |
| First-professional | 65.1 | 62.5 | 15.2 | 8.8 | 39.3 | 34.9 | 9,709 | 12,068 | 4,358 | 3,025 | 5,291 | 4,864 |

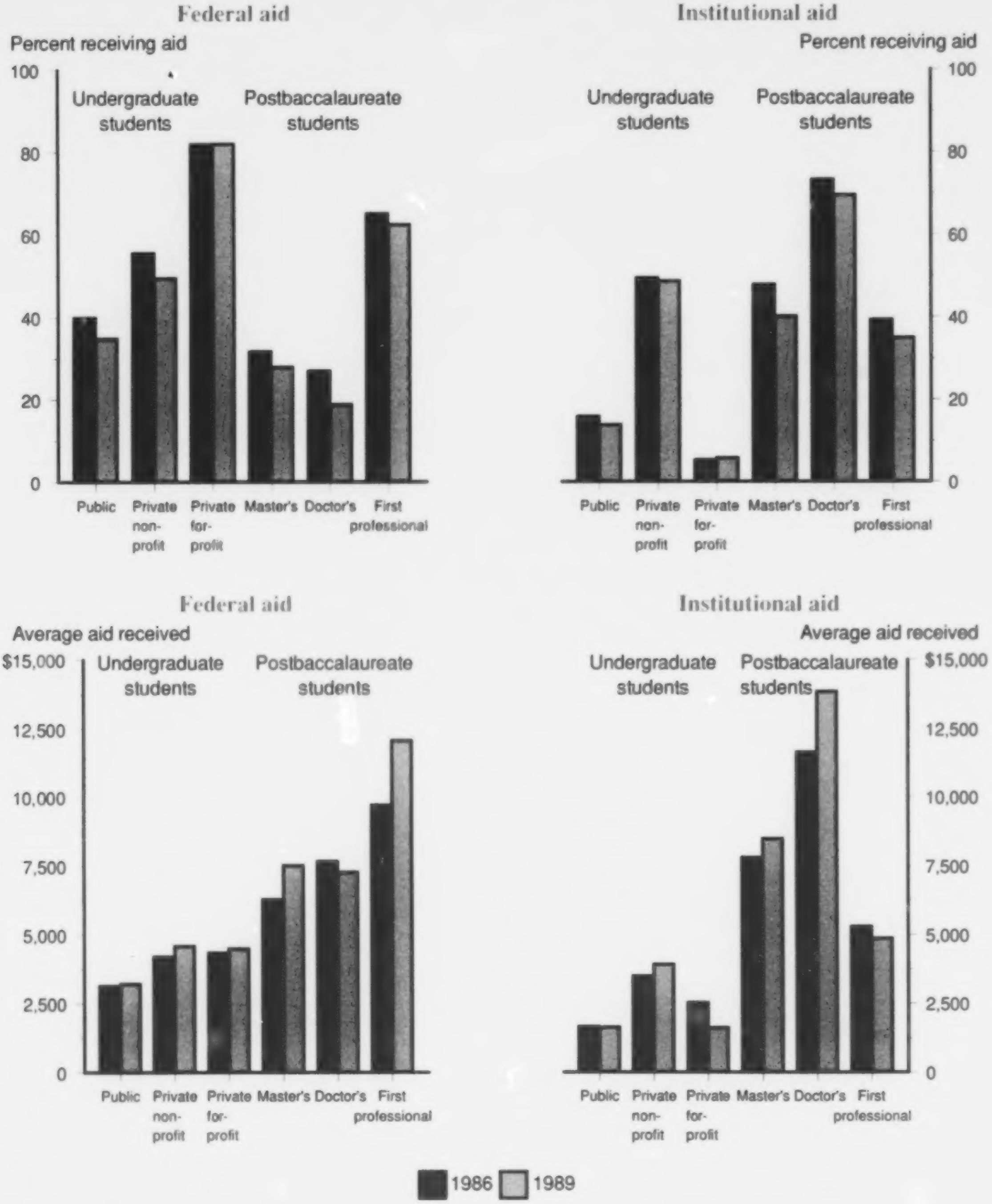
[1] Data for undergraduates differ from previously published figures.

[2] Average amount calculated among those receiving aid.

NOTE: Financial aid includes grants, loans, and work study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

**Receipt and amount (1992 dollars) of federal and institutional aid among full-time students, by type of institution and degree level: Fall 1986 and 1989**



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

## Staff employed in public schools

> *Today's public school systems employ a large number of personnel other than teachers, from district-level administrators to building maintenance workers. Many factors may cause numbers and categories of staff to change over time, but many people attribute the increase in support staff to the increase in responsibilities that schools have assumed over the past 25 years.*

- **The number of all full-time equivalent public school staff per 100 students almost doubled between 1950 and 1981. Between 1985 and 1991 the increases in staff per 100 students have been small.**
- **From 1950 to 1991, classroom teachers as a percentage of total staff decreased sharply, from 70 to 53 percent. However, during the same time period, the number of teachers per 100 students increased from 3.6 to 5.8.**
- **As the percentage of full-time equivalent teaching staff decreased, other instructional staff and support staff increased sharply.**
- **Since 1985, the percentage distribution of full-time equivalent staff has changed little.**
- **School district administrators, principals, and assistant principals as a percentage of full-time equivalent staff has changed little since 1950. However, teacher aides, librarians, guidance counselors, and other instructional staff as a percentage of total staff has shown the largest increase of any group of staff.**

### Percentage distribution of full-time equivalent staff employed in public schools, by type of staff, and full-time staff employed in public schools per 100 students: Selected school years ending 1950–1991

| | Percentage distribution of full-time equivalent staff employed in public schools | | | | | Full-time equivalent staff per 100 students | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| School year ending | Classroom teachers[1] | Principals and assistant principals | Other instructional staff[2] | School district administrators[3] | Support staff[4] | Total staff | Classroom teachers[1] | Principals and assistant principals | Other instructional staff[2] | School district administrators[3] | Support staff[4] |
| 1950 | 70.3 | 3.3 | 0.5 | 2.6 | 23.3 | 5.2 | 3.6 | 0.2 | 0.0 | 0.1 | 1.2 |
| 1960 | 64.8 | 3.0 | 1.9 | 2.0 | 28.2 | 5.9 | 3.8 | 0.2 | 0.1 | 0.1 | 1.7 |
| 1970 | 60.0 | 2.7 | 5.3 | 1.9 | 30.1 | 7.4 | 4.4 | 0.2 | 0.4 | 0.1 | 2.2 |
| 1981 | 52.4 | 2.6 | 13.6 | 1.9 | 29.5 | 10.2 | 5.3 | 0.3 | 1.4 | 0.2 | 3.0 |
| 1985[5] | 53.4 | 3.1 | 9.8 | 1.6 | 32.1 | 10.4 | 5.5 | 0.3 | 1.0 | 0.2 | 3.3 |
| 1986[5] | 53.0 | 3.1 | 10.1 | 1.6 | 32.1 | 10.6 | 5.6 | 0.3 | 1.1 | 0.2 | 3.4 |
| 1987[5] | 53.0 | 3.1 | 10.6 | 1.8 | 31.6 | 10.6 | 5.6 | 0.3 | 1.1 | 0.2 | 3.4 |
| 1988[5] | 52.9 | 2.9 | 10.5 | 1.7 | 32.0 | 10.8 | 5.7 | 0.3 | 1.1 | 0.2 | 3.4 |
| 1989[5] | 53.8 | 2.9 | 11.1 | 1.6 | 30.5 | 10.7 | 5.8 | 0.3 | 1.2 | 0.2 | 3.3 |
| 1990[5] | 53.2 | 2.8 | 11.4 | 1.6 | 31.0 | 10.9 | 5.8 | 0.3 | 1.2 | 0.2 | 3.4 |
| 1991[5] | 53.3 | 2.8 | 11.7 | 1.6 | 30.5 | 10.9 | 5.8 | 0.3 | 1.3 | 0.2 | 3.3 |

[1] In 1950, includes a small number of teacher aides, librarians, guidance counselors, and psychological personnel. In 1960, includes a small number of teacher aides.

[2] Between 1960 and 1991, includes librarians and guidance counselors and others. Teacher aides were included from 1970 to 1991. Psychological personnel were included from 1950 to 1981, but since 1985 they were included with support staff.

[3] Includes intermediate district staff, school district superintendents, assistants to superintendents, and supervisors of instruction.

[4] Includes secretarial and clerical personnel, transportation staff, food service, plant operation and maintenance, health, and recreational and other staff. Since 1985, includes psychological personnel.

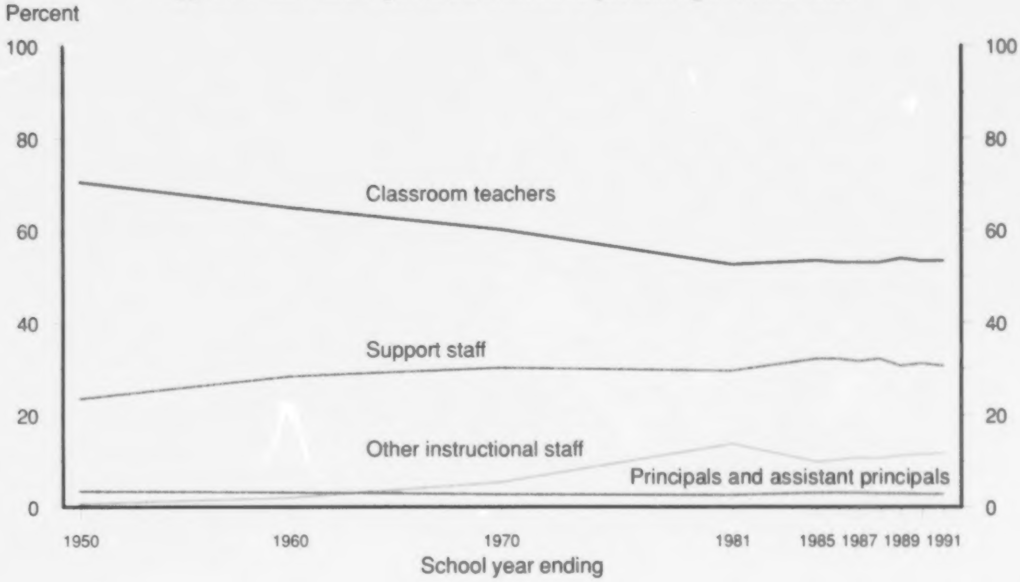
[5] Data for school district administrative staff and support staff not comparable with figures for school years ending prior to 1985.

NOTE: Some data have been revised from previously published figures. Because of variations in data collection instruments, some categories are only roughly comparable over time. Detail may not add to totals due to rounding.

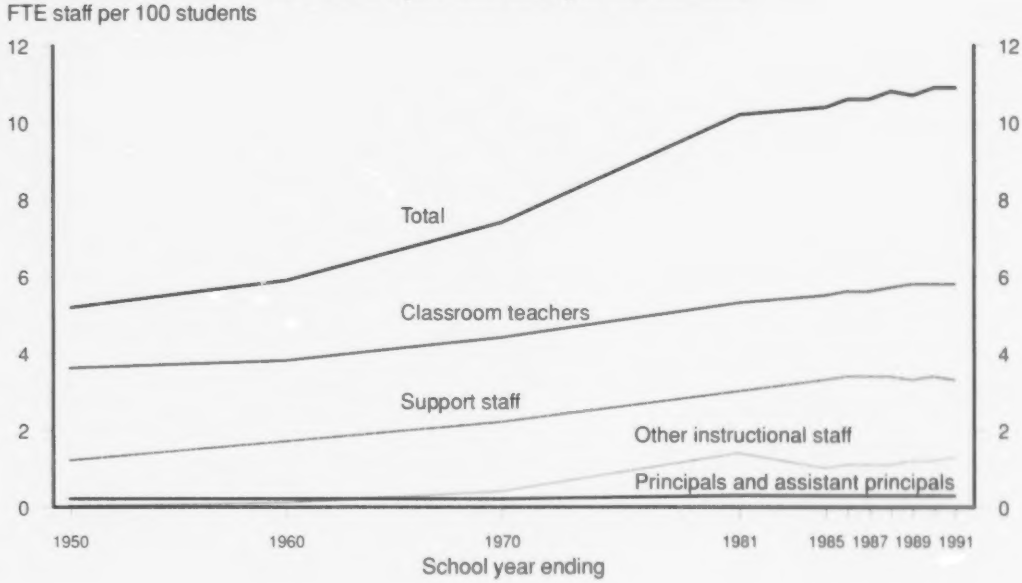
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*, Common Core of Data, and unpublished estimates. *Digest of Education Statistics, 1992*, tables 78 and 3.

## Type of staff employed by public schools: Selected school years ending 1950–1991

Types of full-time equivalent staff as a percentage of total staff



Full-time equivalent staff per 100 students



NOTE: Plotted points in each chart include school years ending: 1950, 1960, 1970, 1981, 1985–1991.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*, Common Core of Data, and unpublished estimates, *Digest of Educational Statistics, 1992*, tables 78 and 3.

## Salaries of teachers

- **Between 1980 and 1992, average overall teacher salaries adjusted for inflation increased by 21 percent, from $28,861 to $34,934; elementary teacher salaries increased by 22 percent, and secondary teacher salaries increased by 20 percent. Since the late 1980s, salaries have exceeded the previous highest levels of the early 1970s.**
- **The average beginning salary for teachers increased between 1980 and 1992 from $19,260 to $23,054, or 20 percent (supplemental table 58-1).**
- **Percentage increases in teacher salaries between 1981 and 1992 ranged from 44 percent in New England to 7 percent in the Rocky Mountain states.**

*There has been much discussion about increasing the supply and quality of teachers. Education officials are experimenting with teacher salary structures, creating new career steps, career ladders, merit pay schemes, and new positions with greater authority and responsibility in order to attract and retain better teachers. In the past, such experiments have been associated with increases in teachers' salaries.*

### Average annual salary and average beginning salary (in 1992 dollars) for public elementary and secondary school teachers: Selected school years ending 1960–1992

| School year ending | All teachers | Elementary teachers | Secondary teachers | Beginning teacher salary |
|---|---|---|---|---|
| 1960 | $23,850 | $22,991 | $25,192 | — |
| 1964 | 27,271 | 26,407 | 28,504 | — |
| 1968 | 30,624 | 29,737 | 31,733 | — |
| 1972 | 33,089 | 32,131 | 34,200 | — |
| 1976 | 31,876 | 31,066 | 32,729 | $21,784 |
| 1980 | 28,861 | 28,137 | 29,745 | 19,260 |
| 1984 | 30,236 | 29,618 | 31,089 | 19,681 |
| 1988 | 33,953 | 33,328 | 34,879 | 22,596 |
| 1992 | 34,934 | 34,334 | 35,750 | 23,054 |

— Not available.

### Average annual salaries of public school teachers for 1981 and 1992, percentage increase of salaries between 1981 and 1992, and per capita personal income for 1991 (in 1992 dollars), by region

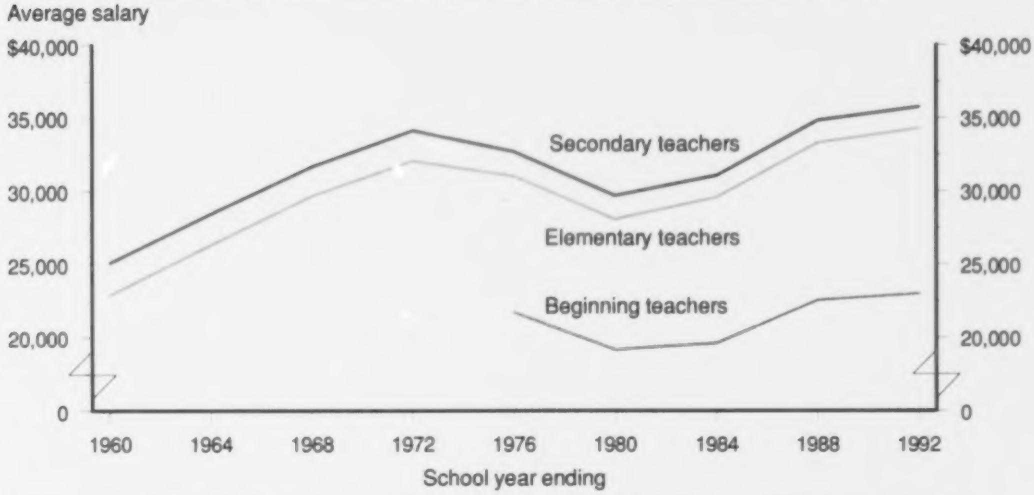
| Region | All teachers 1980-81 | All teachers 1991-92 | Percentage increase 1981-1992 | Per capita personal income (1991) |
|---|---|---|---|---|
| 50 states and D.C. | $28,577 | $34,934 | 22.2 | $19,371 |
| New England | 26,001 | 37,328 | 43.6 | 19,844 |
| Mideast | 31,730 | 39,900 | 25.7 | 22,642 |
| Southeast | 24,357 | 28,945 | 18.8 | 16,335 |
| Great Lakes | 29,932 | 36,525 | 22.0 | 18,817 |
| Plains | 24,757 | 28,415 | 14.8 | 17,880 |
| Southwest | 26,008 | 28,848 | 10.9 | 16,338 |
| Rocky Mountains | 27,392 | 29,227 | 6.7 | 16,756 |
| Far West | 34,536 | 38,014 | 10.1 | 20,370 |

NOTE: Regions are identified in supplemental table 58-2. Regional data not available for 1981-82

SOURCE: National Education Association, *Estimates of School Statistics, 1992* (Copyright © 1992 by NEA. All rights reserved.). American Federation of Teachers, *Survey and Analysis of Salary Trends 1992*, 1992.

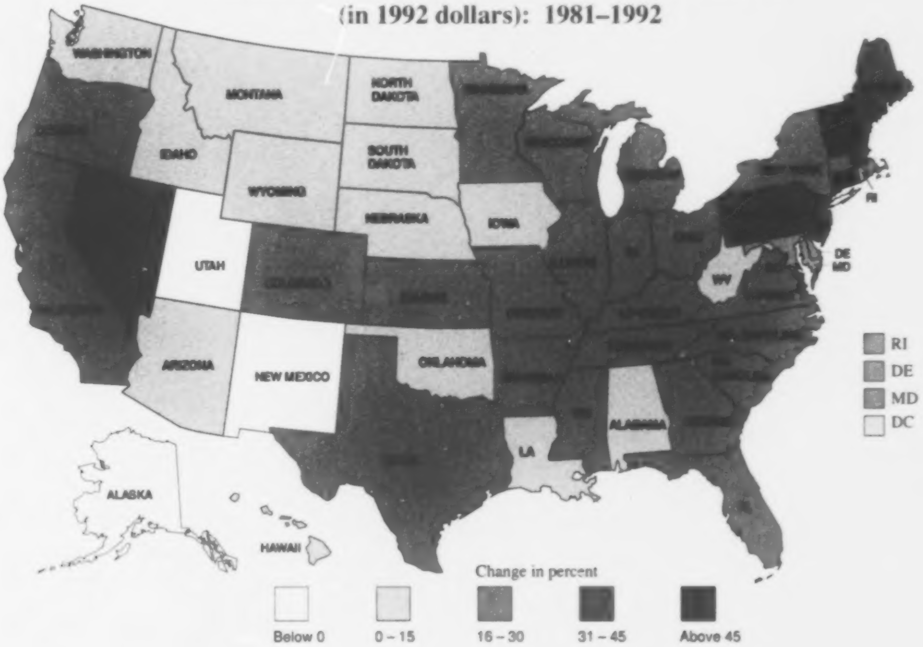
## Average salaries of teachers

### Average annual salary and average beginning salary for public school teachers (in 1992 dollars): Selected school years ending 1960–1992



**Note: Plotted points for average annual salary for teachers are: even years 1960–1968, and all years 1970–1992. Plotted points for average beginning salary for teachers are: even years 1972–1988 and 1990, 1991, and 1992.**

### Percentage change in public school teacher salaries (in 1992 dollars): 1981–1992


WASHINGTON
MONTANA
NORTH DAKOTA
SOUTH DAKOTA
IDAHO
WYOMING
NEBRASKA
IOWA
UTAH
WV
DE
MD
RI
ARIZONA
NEW MEXICO
OKLAHOMA
ALABAMA
LA
ALASKA
HAWAII
RI
DE
MD
DC
Change in percent
Below 0
0 – 15
16 – 30
31 – 45
Above 45

SOURCE: National Education Association, *Estimates of School Statistics, 1992* (Copyright © 1992 by NEA. All rights reserved.). American Federation of Teachers, *Survey and Analysis of Salary Trends, 1992*, 1992.

## Salaries of full-time college faculty

- **After adjusting for inflation, the salaries of full-time faculty at all professorial ranks rose between 1981 and 1991. The rate of growth slowed during the last half of the period.**
- **The percentage increase in real salaries over the 1981-91 period was greater for 4-year than for 2-year faculty.**
- **Constant-dollar salary increases between 1981 and 1991 compensated for much, but not all of the losses in purchasing power incurred during the 1970s. Salaries for faculty in 2-year institutions have rebounded less than those in 4-year institutions.**
- **Between 1990 and 1991, salaries (in constant dollars) rose for faculty at 4-year institutions but fell for those at 2-year institutions.**

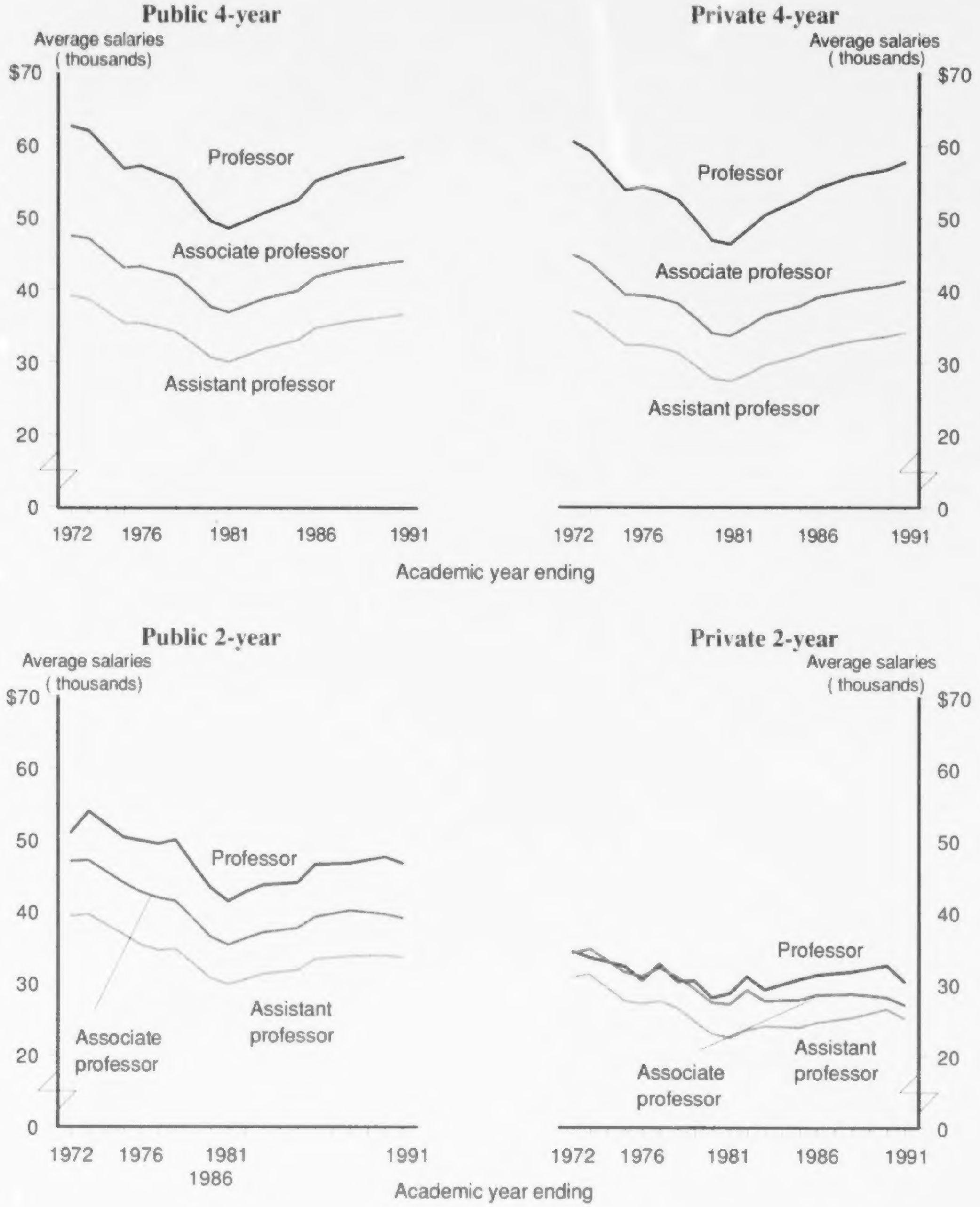
*Faculty salaries affect higher education's ability to attract and retain qualified instructional personnel. In addition, salaries are a significant component of college and university expenditures.*

**Average salaries in 1992 dollars of full-time faculty: Selected academic years ending 1972–1991**

| Type of institution and academic year ending | Public institutions | | | Private institutions | | |
|---|---|---|---|---|---|---|
| | Professor | Associate professor | Assistant professor | Professor | Associate professor | Assistant professor |
| 4-year institutions | | | | | | |
| 1972 | $62,759 | $47,502 | $39,198 | $60,599 | $44,941 | $37,088 |
| 1976 | 57,156 | 43,207 | 35,366 | 54,320 | 39,380 | 32,443 |
| 1981 | 48,529 | 36,886 | 30,009 | 46,441 | 33,781 | 27,499 |
| 1986 | 55,101 | 41,786 | 34,691 | 54,098 | 39,026 | 31,987 |
| 1990 | 57,827 | 43,650 | 36,234 | 56,740 | 40,706 | 33,669 |
| 1991 | 58,364 | 44,018 | 36,580 | 57,796 | 41,270 | 34,208 |
| 2-year institutions | | | | | | |
| 1972 | $51,075 | $47,105 | $39,428 | $34,625 | $34,384 | $31,151 |
| 1976 | 49,941 | 42,743 | 35,430 | 30,578 | 31,108 | 27,352 |
| 1981 | 41,488 | 35,418 | 29,897 | 28,778 | 27,298 | 22,632 |
| 1986 | 46,619 | 39,342 | 33,490 | 31,386 | 28,536 | 24,702 |
| 1990 | 47,655 | 39,694 | 33,958 | 32,706 | 28,303 | 26,609 |
| 1991 | 46,779 | 39,185 | 33,654 | 30,424 | 27,230 | 25,322 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of faculty salaries, various years.

## Average salaries in 1992 dollars of full-time faculty in institutions of higher education, by academic rank and type and control of institution: Academic years ending 1972–1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of faculty salaries, various years.

## Undergraduate courses taken by recently-graduated full-time teachers

- **Nearly 8 out of 10 general education teachers, most of whom are elementary school teachers, took at least one mathematics course in college and nearly 7 out of 10 took at least one physical science course. On average, those who took mathematics earned 5.8 credit hours in mathematics and those who took physical science earned 4.1 in physical science.**
- **Nearly all science and math teachers took mathematics in college, but fewer than 6 out of 10 took calculus. About 3 out of 4 took one or more courses in the life and physical sciences.**
- **Teachers were more likely to take history and geography and less likely to take economics than recent college graduates as a whole.**

*An issue in current debates about teacher quality and education is the importance of subject matter knowledge, particularly in mathematics and science. Data on the undergraduate courses taken and credit hours earned by recently-graduated full-time teachers provide information about the backgrounds of new teachers.*

### Undergraduate course-taking among 1985–86 bachelor's degree recipients teaching full-time one year after graduation

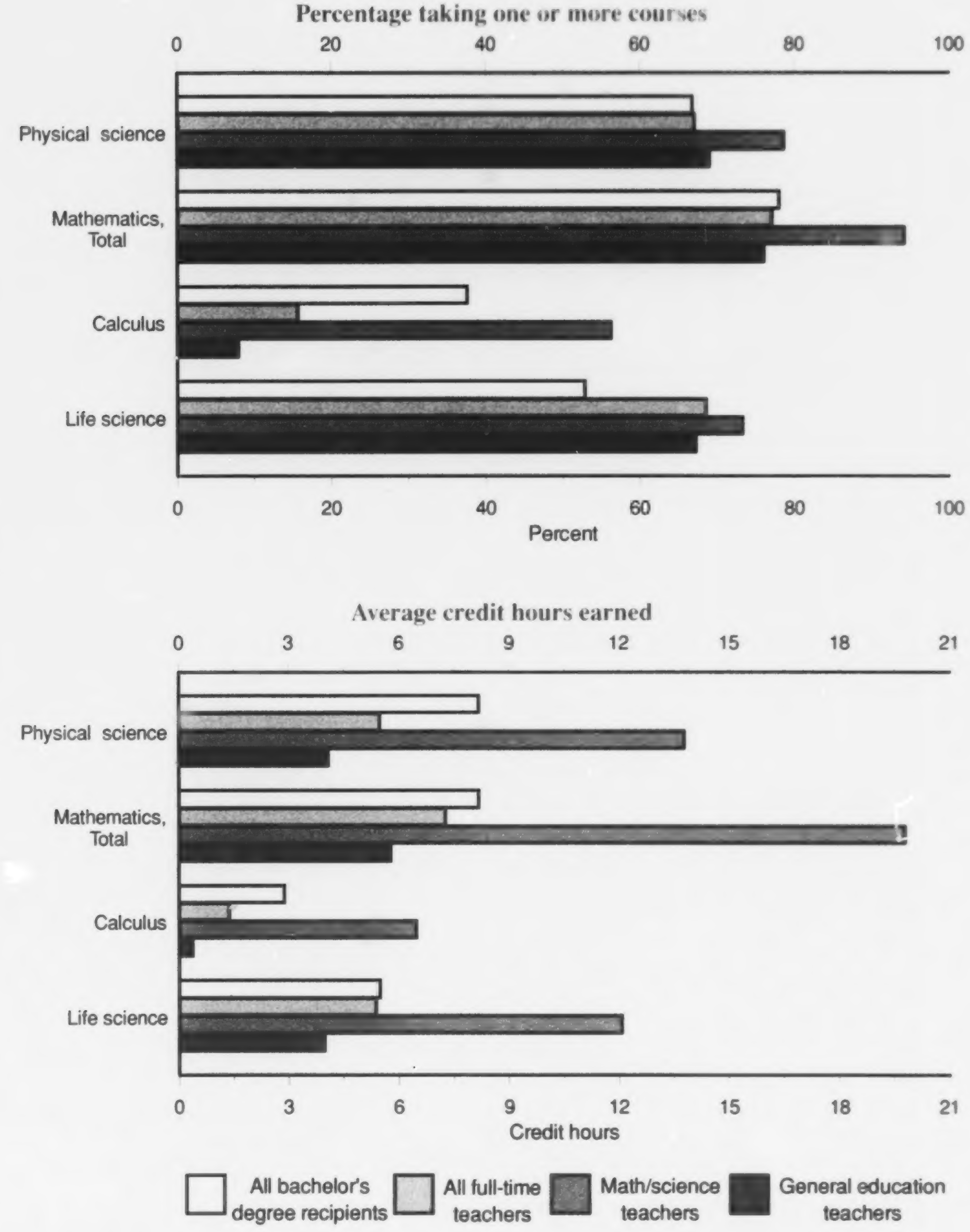
| Subject | All bachelor's degree recipients | All full-time teachers | Humanities and social science teachers | Science and math teachers | General education teachers | Other education teachers |
|---|---|---|---|---|---|---|
| | | | **Percent taking one or more courses in selected subjects** | | | |
| English | 86.8 | 91.2 | 91.3 | 88.7 | 90.2 | 93.9 |
| Foreign language | 36.1 | 34.1 | 52.0 | 43.1 | 26.9 | 31.4 |
| Economics | 52.8 | 23.0 | 23.6 | 30.8 | 20.0 | 15.2 |
| Geography | 14.2 | 26.0 | 20.7 | 19.2 | 33.7 | 19.6 |
| History | 63.2 | 75.1 | 77.5 | 75.0 | 75.5 | 71.2 |
| Life science | 52.9 | 68.7 | 66.4 | 73.4 | 67.3 | 71.7 |
| Physical science | 66.9 | 67.2 | 63.3 | 78.7 | 69.1 | 56.9 |
| Mathematics | 78.1 | 77.2 | 65.9 | 94.3 | 76.1 | 73.1 |
| Calculus | 37.7 | 15.8 | 9.8 | 56.3 | 8.0 | 10.1 |
| Education | 36.3 | 95.5 | 92.6 | 94.2 | 98.0 | 96.0 |
| | | | **Average credit hours earned in selected subjects*** | | | |
| English | 10.2 | 12.5 | 19.3 | 10.0 | 11.7 | 10.6 |
| Foreign language | 3.7 | 3.6 | 8.3 | 3.9 | 2.1 | 3.4 |
| Economics | 4.5 | 1.0 | 1.1 | 1.4 | .8 | .9 |
| Geography | 0.7 | 1.1 | 1.0 | 1.2 | 1.4 | .8 |
| History | 4.4 | 5.3 | 7.0 | 4.9 | 5.1 | 4.9 |
| Life science | 5.5 | 5.4 | 3.7 | 12.1 | 4.0 | 5.0 |
| Physical science | 8.2 | 5.5 | 3.2 | 13.8 | 4.1 | 3.6 |
| Mathematics | 8.2 | 7.3 | 4.3 | 19.8 | 5.8 | 4.7 |
| Calculus | 2.9 | 1.4 | .6 | 6.5 | .4 | .6 |
| Education | 5.9 | 42.9 | 29.4 | 31.8 | 49.0 | 51.3 |

* Average credit hours are computed for all students, both those who took courses in the subject and those who did not.

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Undergraduate course-taking by 1985–86 bachelor's degree recipients and by those recipients teaching full-time one year after graduation



NOTE: Average credit hours are computed for all students, both those who took courses in the subject and those who did not.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

# Supplemental Tables and Notes

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## Table 1-1 Percentage enrolled in school, by age: October 1972–91

| October | Age |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1972 | 15.8 | 34.0 | 85.7 | 98.5 | 99.6 | 99.9 | 99.8 | 100.0 | 99.8 | 99.9 | 99.8 | 98.6 | 97.7 | 93.8 | 85.6 | 57.5 |
| 1973 | 14.8 | 35.1 | 86.8 | 98.9 | 99.7 | 99.7 | 99.8 | 99.7 | 99.9 | 99.8 | 99.7 | 98.6 | 97.1 | 93.2 | 84.5 | 52.2 |
| 1974 | 20.0 | 38.3 | 89.9 | 99.1 | 99.7 | 99.8 | 99.8 | 99.8 | 100.0 | 100.0 | 99.9 | 98.8 | 97.6 | 93.7 | 82.9 | 53.2 |
| 1975 | 22.1 | 41.5 | 90.9 | 99.4 | 99.9 | 99.8 | 100.0 | 99.9 | 99.8 | 99.8 | 99.6 | 98.9 | 98.1 | 94.3 | 84.3 | 56.2 |
| 1976 | 20.8 | 42.7 | 92.3 | 99.5 | 99.8 | 99.8 | 99.9 | 99.9 | 99.8 | 99.8 | 99.9 | 98.8 | 98.2 | 93.3 | 86.2 | 53.0 |
| 1977 | 22.0 | 43.2 | 92.4 | 99.5 | 99.9 | 99.9 | 99.9 | 99.9 | 99.8 | 99.7 | 99.0 | 100.0 | 98.3 | 93.9 | 84.9 | 56.9 |
| 1978 | 25.7 | 44.7 | 92.1 | 99.1 | 99.6 | 99.8 | 99.9 | 99.4 | 99.6 | 99.6 | 99.6 | 99.3 | 98.4 | 94.7 | 85.0 | 52.4 |
| 1979 | 25.4 | 46.1 | 93.0 | 99.2 | 99.4 | 99.6 | 99.9 | 99.8 | 99.8 | 99.5 | 99.9 | 99.1 | 98.0 | 94.4 | 85.3 | 55.9 |
| 1980 | 27.6 | 47.2 | 93.2 | 99.4 | 99.5 | 99.5 | 99.7 | 99.6 | 99.7 | 99.8 | 99.7 | 98.7 | 98.5 | 93.9 | 85.2 | 54.6 |
| 1981 | 27.6 | 45.4 | 90.2 | 98.9 | 99.6 | 99.7 | 99.7 | 99.9 | 99.7 | 99.6 | 99.9 | 99.0 | 97.7 | 94.6 | 87.3 | 57.9 |
| 1982 | 27.6 | 46.1 | 91.5 | 99.4 | 99.8 | 99.6 | 99.8 | 99.9 | 99.8 | 99.9 | 99.5 | 98.8 | 98.9 | 94.6 | 88.1 | 57.1 |
| 1983 | 28.2 | 47.6 | 92.6 | 99.0 | 99.5 | 99.7 | 99.6 | 99.8 | 99.7 | 99.9 | 99.7 | 99.0 | 98.5 | 96.3 | 88.6 | 58.4 |
| 1984 | 28.5 | 46.5 | 91.4 | 99.1 | 99.6 | 99.2 | 99.4 | 99.7 | 99.7 | 99.6 | 99.7 | 98.3 | 97.8 | 95.3 | 88.5 | 58.6 |
| 1985 | 29.2 | 49.5 | 93.9 | 99.1 | 99.6 | 99.8 | 99.7 | 99.7 | 99.8 | 99.9 | 99.7 | 98.4 | 98.5 | 94.9 | 88.6 | 59.7 |
| 1986 | 29.3 | 49.5 | 91.8 | 99.4 | 99.8 | 99.8 | 99.8 | 99.8 | 99.5 | 99.7 | 99.8 | 98.2 | 97.9 | 95.5 | 89.6 | 61.0 |
| 1987 | 28.6 | 47.9 | 91.3 | 99.0 | 99.5 | 99.7 | 99.6 | 99.4 | 99.5 | 99.7 | 99.3 | 98.9 | 98.2 | 95.4 | 88.1 | 62.2 |
| 1988 | 27.6 | 49.2 | 92.6 | 99.3 | 99.7 | 99.6 | 99.6 | 99.9 | 99.6 | 99.6 | 99.7 | 99.3 | 98.5 | 94.6 | 88.8 | 62.8 |
| 1989 | 27.1 | 51.2 | 91.8 | 98.4 | 98.9 | 99.4 | 99.4 | 99.4 | 99.5 | 99.2 | 99.6 | 99.5 | 98.2 | 96.0 | 89.6 | 61.6 |
| 1990 | 32.6 | 56.1 | 93.2 | 99.8 | 99.5 | 99.9 | 99.6 | 99.6 | 99.6 | 99.7 | 99.6 | 99.6 | 98.4 | 95.6 | 89.5 | 64.4 |
| 1991 | 28.2 | 53.0 | 91.4 | 99.4 | 99.3 | 99.7 | 99.8 | 99.8 | 99.7 | 99.7 | 99.6 | 99.5 | 98.0 | 96.5 | 90.0 | 65.5 |

| October | Age |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 1972 | 42.7 | 37.8 | 31.2 | 20.5 | 16.9 | 15.2 | 13.8 | 11.9 | 9.9 | 8.4 | 9.1 | 7.1 | 6.8 | 6.7 | 5.9 | 5.6 |
| 1973 | 40.2 | 33.4 | 30.2 | 19.0 | 14.4 | 15.5 | 12.6 | 11.1 | 9.5 | 9.9 | 6.1 | 6.5 | 5.3 | 5.6 | 4.7 | 4.7 |
| 1974 | 39.4 | 33.4 | 31.6 | 20.1 | 15.9 | 13.8 | 14.0 | 11.5 | 10.6 | 11.0 | 7.7 | 7.7 | 7.0 | 7.0 | 7.4 | 6.5 |
| 1975 | 42.9 | 36.5 | 31.6 | 21.9 | 17.8 | 14.5 | 14.2 | 12.2 | 10.8 | 11.4 | 9.4 | 9.6 | 7.5 | 7.9 | 7.9 | 6.7 |
| 1976 | 44.8 | 37.1 | 30.9 | 22.3 | 16.7 | 16.1 | 13.4 | 12.4 | 11.5 | 10.2 | 9.7 | 8.1 | 8.2 | 7.7 | 6.7 | 5.4 |
| 1977 | 41.8 | 37.1 | 32.9 | 21.8 | 17.6 | 15.4 | 15.2 | 12.9 | 10.7 | 11.7 | 10.9 | 9.7 | 9.0 | 8.1 | 6.5 | 6.7 |
| 1978 | 42.7 | 33.7 | 28.6 | 21.9 | 16.2 | 14.7 | 11.8 | 11.0 | 10.0 | 9.4 | 8.6 | 8.9 | 7.9 | 7.1 | 5.7 | 4.2 |
| 1979 | 41.3 | 35.1 | 30.0 | 21.1 | 17.3 | 13.7 | 13.5 | 12.4 | 9.8 | 10.3 | 9.0 | 9.0 | 7.0 | 8.1 | 7.2 | 5.6 |
| 1980 | 43.0 | 33.9 | 30.6 | 22.3 | 16.7 | 13.5 | 12.0 | 11.2 | 10.0 | 8.8 | 7.9 | 8.0 | 8.2 | 6.5 | 6.8 | 6.3 |
| 1981 | 43.4 | 36.5 | 29.7 | 21.9 | 16.4 | 14.2 | 11.6 | 10.7 | 9.2 | 9.3 | 8.1 | 8.7 | 8.3 | 8.0 | 6.7 | 6.2 |
| 1982 | 43.4 | 38.9 | 32.7 | 22.2 | 17.2 | 13.8 | 12.6 | 11.4 | 9.4 | 9.2 | 9.5 | 7.4 | 8.1 | 7.0 | 6.3 | 6.1 |
| 1983 | 46.6 | 35.8 | 32.5 | 24.1 | 16.4 | 13.4 | 13.0 | 11.1 | 9.9 | 8.6 | 9.1 | 8.6 | 7.7 | 7.7 | 6.9 | 5.8 |
| 1984 | 43.1 | 37.7 | 31.4 | 22.5 | 17.2 | 13.8 | 11.4 | 9.9 | 10.4 | 8.8 | 7.8 | 6.9 | 8.0 | 7.1 | 5.8 | 6.0 |
| 1985 | 45.7 | 38.3 | 33.8 | 22.4 | 15.7 | 13.4 | 12.0 | 10.3 | 9.6 | 9.7 | 9.1 | 7.9 | 7.2 | 6.3 | 6.7 | 6.4 |
| 1986 | 49.6 | 36.8 | 30.6 | 25.4 | 16.4 | 13.8 | 11.3 | 10.4 | 10.2 | 9.3 | 7.8 | 7.6 | 7.6 | 6.8 | 6.3 | 5.5 |
| 1987 | 48.8 | 42.3 | 34.9 | 23.2 | 17.2 | 12.7 | 12.7 | 9.7 | 8.6 | 7.3 | 7.1 | 6.6 | 5.5 | 6.2 | 5.6 | 5.3 |
| 1988 | 47.8 | 42.1 | 36.0 | 25.4 | 17.1 | 13.2 | 10.1 | 9.4 | 7.9 | 7.5 | 6.8 | 6.4 | 6.0 | 6.0 | 6.2 | 5.1 |
| 1989 | 50.6 | 39.0 | 38.0 | 27.9 | 18.5 | 14.2 | 12.6 | 10.2 | 9.3 | 7.9 | 6.9 | 6.7 | 6.3 | 4.9 | 5.2 | 5.4 |
| 1990 | 50.6 | 42.9 | 36.4 | 28.1 | 19.2 | 16.2 | 11.8 | 11.7 | 9.7 | 8.7 | 6.9 | 6.5 | 7.6 | 5.5 | 4.2 | 5.4 |
| 1991 | 54.0 | 43.6 | 40.5 | 28.2 | 20.9 | 17.0 | 12.4 | 11.4 | 10.7 | 9.1 | 7.7 | 7.0 | 7.4 | 6.6 | 5.4 | 4.6 |

NOTE: School enrollment includes nursery schools, regular elementary and secondary schools, and colleges and universities. It excludes attendance at day-care centers and less than 2-year colleges and other postsecondary institutions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 1-2 Standard errors for estimated percentages in table 1-1

| October | Age | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1972 | 0.6 | 0.8 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1973 | 0.6 | 0.8 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.6 | 0.8 |
| 1974 | 0.7 | 0.8 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1975 | 0.8 | 0.8 | 0.5 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1976 | 0.8 | 0.9 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.2 | 0.2 | 0.4 | 0.5 | 0.8 |
| 1977 | 0.8 | 1.0 | 0.5 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.0 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1978 | 0.9 | 1.0 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1979 | 0.8 | 1.0 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1980 | 0.9 | 1.0 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.6 | 0.8 |
| 1981 | 0.8 | 0.9 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.6 | 0.8 |
| 1982 | 1.0 | 1.1 | 0.6 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 0.7 | 1.0 |
| 1983 | 1.0 | 1.1 | 0.6 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.7 | 1.0 |
| 1984 | 1.0 | 1.1 | 0.6 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.5 | 0.7 | 1.1 |
| 1985 | 1.0 | 1.1 | 0.5 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.5 | 0.7 | 1.1 |
| 1986 | 1.0 | 1.1 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.3 | 0.3 | 0.4 | 0.7 | 1.1 |
| 1987 | 1.0 | 1.1 | 0.6 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.5 | 0.7 | 1.1 |
| 1988 | 1.4 | 1.5 | 0.8 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.7 | 1.0 | 1.4 |
| 1989 | 1.4 | 1.5 | 0.8 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.4 | 0.6 | 1.0 | 1.5 |
| 1990 | 1.2 | 1.3 | 0.6 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.6 | 0.9 | 1.3 |
| 1991 | 1.2 | 1.3 | 0.7 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.4 | 0.5 | 0.8 | 1.3 |

| October | Age | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 1972 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1973 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.6 | 0.5 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 |
| 1974 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1975 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1976 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 |
| 1977 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.5 | 0.5 |
| 1978 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 |
| 1979 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1980 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 |
| 1981 | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 |
| 1982 | 1.0 | 1.0 | 1.0 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 |
| 1983 | 1.1 | 1.0 | 1.0 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 |
| 1984 | 1.1 | 1.0 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.5 | 0.5 |
| 1985 | 1.1 | 1.0 | 1.0 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1986 | 1.1 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1987 | 1.1 | 1.1 | 1.1 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 1988 | 1.6 | 1.6 | 1.5 | 1.4 | 1.1 | 1.0 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 |
| 1989 | 1.5 | 1.5 | 1.6 | 1.4 | 1.2 | 1.0 | 1.0 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.7 |
| 1990 | 1.3 | 1.3 | 1.3 | 1.2 | 1.1 | 1.0 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.6 |
| 1991 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.0 | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 |

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-1 Percentage of 3- and 4-year-olds enrolled in pre-K and kindergarten, by race/ethnicity: October 1973–90 (3-year average)

| October | Enrolled in pre-K | | | | Enrolled in kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1973 | 19.1 | 19.5 | 19.0 | 13.8 | 6.7 | 6.1 | 9.6 | 7.9 |
| 1974 | 21.3 | 21.6 | 21.1 | 15.6 | 6.8 | 6.1 | 9.5 | 8.2 |
| 1975 | 23.0 | 23.6 | 22.2 | 15.8 | 7.5 | 6.7 | 10.3 | 9.1 |
| 1976 | 24.1 | 24.7 | 23.9 | 15.4 | 7.5 | 6.6 | 10.8 | 7.5 |
| 1977 | 25.4 | 26.1 | 25.8 | 15.4 | 7.1 | 6.4 | 11.0 | 6.0 |
| 1978 | 27.3 | 27.9 | 27.6 | — | 6.5 | 5.5 | 11.3 | — |
| 1979 | 29.2 | 29.8 | 28.9 | — | 6.2 | 5.4 | 10.9 | — |
| 1980 | 29.7 | 30.7 | 28.0 | — | 6.2 | 5.3 | 10.6 | — |
| 1981 | 30.4 | 32.3 | 28.4 | 18.7 | 6.0 | 5.1 | 9.5 | 6.3 |
| 1982 | 30.6 | 32.8 | 28.7 | 15.7 | 6.1 | 5.4 | 8.5 | 7.7 |
| 1983 | 30.7 | 32.9 | 28.9 | 15.3 | 6.0 | 5.2 | 8.8 | 8.0 |
| 1984 | 31.2 | 33.6 | 28.7 | 17.4 | 6.4 | 5.4 | 10.5 | 7.7 |
| 1985 | 31.9 | 34.6 | 28.6 | 19.2 | 6.1 | 4.8 | 11.4 | 7.6 |
| 1986 | 32.4 | 35.5 | 27.4 | 20.3 | 6.3 | 4.7 | 12.1 | 8.3 |
| 1987 | 32.5 | 36.1 | 25.9 | 18.7 | 6.0 | 4.3 | 10.4 | 9.1 |
| 1988 | 33.0 | 36.8 | 26.7 | 18.0 | 5.5 | 4.1 | 9.6 | 7.6 |
| 1989 | 36.0 | 39.9 | 30.4 | 19.6 | 4.5 | 3.7 | 7.5 | 6.1 |
| 1990 | 36.5 | 40.3 | 31.4 | 21.0 | 4.8 | 3.9 | 7.6 | 6.7 |

— Not available.

NOTE: Due to small sample sizes for the black and Hispanic categories, 3-year averages are calculated. The 3-year average for 1990 is the average percentage enrolled in 1989, 1990, and 1991.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-2 Percentage of 5-year-olds enrolled in pre-K, kindergarten, and grades 1 or 2, by race/ethnicity: October 1973–90 (3-year average)

| October | Enrolled in pre-K | | | | Enrolled in kindergarten | | | | Enrolled in grades 1 or 2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1973 | 2.2 | 2.1 | 3.1 | 3.2 | 74.7 | 75.9 | 69.0 | 70.9 | 10.2 | 10.0 | 10.8 | 10.8 |
| 1974 | 2.7 | 2.5 | 4.3 | 3.0 | 76.0 | 77.7 | 69.2 | 69.5 | 10.2 | 9.4 | 12.5 | 12.1 |
| 1975 | 2.8 | 2.6 | 3.7 | 2.5 | 77.7 | 79.3 | 71.4 | 74.1 | 10.3 | 9.3 | 14.0 | 10.6 |
| 1976 | 3.0 | 2.9 | 3.7 | 2.6 | 78.7 | 80.0 | 73.8 | 76.0 | 9.9 | 9.0 | 13.9 | 9.2 |
| 1977 | 3.0 | 3.0 | 3.5 | 1.6 | 78.9 | 79.9 | 74.6 | 78.5 | 10.0 | 9.5 | 12.9 | 8.0 |
| 1978 | 3.5 | 3.4 | 4.1 | — | 79.1 | 80.4 | 74.6 | — | 9.4 | 8.6 | 13.0 | — |
| 1979 | 3.4 | 3.4 | 4.0 | — | 80.0 | 81.5 | 74.7 | — | 8.8 | 7.7 | 12.7 | — |
| 1980 | 3.4 | 3.5 | 3.3 | — | 80.0 | 81.8 | 75.5 | — | 8.1 | 6.6 | 13.3 | — |
| 1981 | 3.2 | 3.5 | 3.1 | 1.7 | 80.2 | 81.9 | 76.1 | 74.0 | 7.6 | 6.2 | 12.5 | 10.3 |
| 1982 | 4.1 | 4.6 | 3.0 | 2.7 | 79.2 | 80.8 | 75.1 | 74.5 | 7.6 | 6.1 | 13.1 | 9.4 |
| 1983 | 4.4 | 4.9 | 3.2 | 2.5 | 79.5 | 80.7 | 76.0 | 76.6 | 7.3 | 6.1 | 11.5 | 10.4 |
| 1984 | 4.9 | 5.3 | 3.5 | 3.3 | 80.1 | 81.5 | 76.5 | 76.9 | 7.1 | 5.9 | 11.1 | 10.7 |
| 1985 | 4.4 | 4.8 | 3.0 | 3.1 | 81.4 | 82.6 | 79.4 | 77.6 | 6.2 | 5.0 | 9.1 | 9.5 |
| 1986 | 5.4 | 6.1 | 2.4 | 4.6 | 81.0 | 81.6 | 82.1 | 76.3 | 5.7 | 4.6 | 8.5 | 8.1 |
| 1987 | 6.1 | 6.9 | 2.5 | 5.3 | 80.4 | 81.1 | 80.6 | 77.5 | 5.3 | 3.9 | 9.8 | 7.0 |
| 1988 | 7.1 | 8.1 | 3.4 | 5.9 | 79.3 | 80.1 | 79.1 | 75.8 | 5.5 | 3.9 | 10.3 | 8.0 |
| 1989 | 7.7 | 8.7 | 5.2 | 5.2 | 79.6 | 80.7 | 77.6 | 77.8 | 5.3 | 3.6 | 9.7 | 7.6 |
| 1990 | 7.6 | 8.7 | 5.4 | 4.4 | 79.4 | 80.2 | 79.1 | 76.3 | 5.1 | 3.8 | 7.8 | 8.0 |

— Not available.

NOTE: Due to small sample sizes for the black and Hispanic categories, 3-year averages are calculated. The 3-year average for 1990 is the average percentage enrolled in 1989, 1990, and 1991.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-3 Percentage enrolled in preprimary education, by age, level, and family income: October 1973–91

| October | 3- to 4-year-olds in pre-K | | | | 5-year-olds in kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Low income | Middle income | High income | Total | Low income | Middle income | High income |
| 1973 | 17.7 | 15.0 | 13.7 | 34.7 | 73.7 | 67.0 | 73.8 | 76.9 |
| 1974 | — | — | — | — | — | — | — | — |
| 1975 | 24.4 | 20.2 | 21.4 | 37.7 | 78.0 | 68.6 | 78.9 | 80.2 |
| 1976 | 22.9 | 15.1 | 19.5 | 42.4 | 79.0 | 72.4 | 79.7 | 80.8 |
| 1977 | 24.9 | 18.2 | 22.0 | 40.7 | 79.0 | 72.7 | 79.3 | 82.5 |
| 1978 | 28.4 | 21.9 | 24.9 | 47.1 | 78.7 | 73.9 | 79.3 | 79.5 |
| 1979 | 28.7 | 22.1 | 24.6 | 48.7 | 79.7 | 78.7 | 77.7 | 88.2 |
| 1980 | 30.4 | 22.6 | 26.9 | 50.0 | 81.6 | 78.1 | 81.4 | 84.9 |
| 1981 | 30.0 | 20.7 | 27.5 | 46.8 | 78.7 | 72.4 | 79.0 | 82.7 |
| 1982 | 30.8 | 21.7 | 27.6 | 50.6 | 80.2 | 78.3 | 79.4 | 84.3 |
| 1983 | 30.9 | 21.1 | 27.7 | 51.5 | 78.8 | 75.7 | 79.3 | 80.0 |
| 1984 | 30.4 | 16.1 | 28.1 | 54.0 | 79.6 | 78.5 | 80.2 | 78.3 |
| 1985 | 32.1 | 18.4 | 30.1 | 53.1 | 81.8 | 81.8 | 80.7 | 85.6 |
| 1986 | 33.1 | 19.9 | 30.1 | 55.8 | 82.5 | 82.2 | 81.9 | 85.0 |
| 1987 | 31.8 | 17.9 | 29.7 | 51.4 | 78.7 | 77.0 | 78.1 | 81.5 |
| 1988 | 32.5 | 20.5 | 28.6 | 53.7 | 80.1 | 79.6 | 79.8 | 81.2 |
| 1989 | 34.6 | 23.8 | 31.4 | 52.4 | 79.2 | 78.7 | 78.3 | 81.8 |
| 1990 | 40.8 | 30.8 | 36.9 | 61.3 | 79.5 | 77.6 | 78.8 | 83.5 |
| 1991 | 34.1 | 22.4 | 31.5 | 53.2 | 79.7 | 77.9 | 78.8 | 83.7 |

— Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-4 Standard errors for estimated percentages in table 2-1

| October | Enrolled in pre-K | | | | Enrolled in kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1973 | 0.5 | 0.5 | 1.2 | 1.5 | 0.3 | 0.3 | 0.9 | 1.2 |
| 1974 | 0.5 | 0.5 | 1.2 | 1.6 | 0.3 | 0.3 | 0.9 | 1.2 |
| 1975 | 0.5 | 0.6 | 1.3 | 1.6 | 0.3 | 0.3 | 0.9 | 1.3 |
| 1976 | 0.5 | 0.6 | 1.3 | 1.6 | 0.3 | 0.3 | 1.0 | 1.2 |
| 1977 | 0.5 | 0.6 | 1.4 | 1.6 | 0.3 | 0.4 | 1.0 | 1.1 |
| 1978 | 0.6 | 0.6 | 1.4 | — | 0.3 | 0.3 | 1.0 | — |
| 1979 | 0.6 | 0.7 | 1.4 | — | 0.3 | 0.3 | 1.0 | — |
| 1980 | 0.6 | 0.7 | 1.4 | — | 0.3 | 0.3 | 1.0 | — |
| 1981 | 0.6 | 0.7 | 1.4 | 1.5 | 0.3 | 0.3 | 0.9 | 1.0 |
| 1982 | 0.6 | 0.7 | 1.5 | 1.5 | 0.3 | 0.3 | 0.9 | 1.1 |
| 1983 | 0.6 | 0.7 | 1.4 | 1.5 | 0.3 | 0.3 | 0.9 | 1.1 |
| 1984 | 0.6 | 0.7 | 1.4 | 1.5 | 0.3 | 0.3 | 1.0 | 1.0 |
| 1985 | 0.6 | 0.7 | 1.4 | 1.5 | 0.3 | 0.3 | 1.0 | 1.0 |
| 1986 | 0.6 | 0.7 | 1.4 | 1.4 | 0.3 | 0.3 | 1.0 | 1.0 |
| 1987 | 0.6 | 0.7 | 1.4 | 1.4 | 0.3 | 0.3 | 1.0 | 1.0 |
| 1988 | 0.6 | 0.8 | 1.5 | 1.5 | 0.3 | 0.3 | 1.0 | 1.0 |
| 1989 | 0.6 | 0.8 | 1.6 | 1.5 | 0.3 | 0.3 | 0.9 | 0.9 |
| 1990 | 0.6 | 0.8 | 1.5 | 1.5 | 0.3 | 0.3 | 0.9 | 0.9 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-5 Standard errors for estimated percentages in table 2-2

| October | Enrolled in pre-K | | | | Enrolled in kindergarten | | | | Enrolled in grades 1 or 2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic | Total | White | Black | Hispanic | Total | White | Black | Hispanic |
| 1973 | 0.2 | 0.2 | 0.7 | 1.3 | 0.7 | 0.7 | 1.8 | 2.6 | 1.4 | 1.6 | 3.8 | 5.5 |
| 1974 | 0.2 | 0.3 | 0.8 | 1.3 | 0.6 | 0.7 | 1.8 | 2.7 | 1.4 | 1.6 | 3.7 | 5.5 |
| 1975 | 0.2 | 0.3 | 0.7 | 1.2 | 0.6 | 0.7 | 1.7 | 2.5 | 1.4 | 1.6 | 3.6 | 5.4 |
| 1976 | 0.3 | 0.3 | 0.7 | 1.1 | 0.6 | 0.7 | 1.7 | 2.4 | 1.4 | 1.6 | 3.6 | 5.4 |
| 1977 | 0.3 | 0.3 | 0.7 | 0.9 | 0.6 | 0.7 | 1.7 | 2.4 | 1.5 | 1.7 | 3.7 | 5.5 |
| 1978 | 0.3 | 0.3 | 0.8 | — | 0.6 | 0.7 | 1.8 | — | 1.5 | 1.7 | 3.8 | — |
| 1979 | 0.3 | 0.3 | 0.8 | — | 0.6 | 0.7 | 1.8 | — | 1.5 | 1.8 | 3.8 | — |
| 1980 | 0.3 | 0.3 | 0.7 | — | 0.6 | 0.7 | 1.8 | — | 1.5 | 1.8 | 3.8 | — |
| 1981 | 0.3 | 0.4 | 0.7 | 0.8 | 0.7 | 0.8 | 1.7 | 2.3 | 1.6 | 1.9 | 3.8 | 4.9 |
| 1982 | 0.3 | 0.4 | 0.7 | 1.1 | 0.7 | 0.8 | 1.9 | 2.3 | 1.6 | 1.9 | 4.0 | 5.0 |
| 1983 | 0.3 | 0.4 | 0.7 | 1.0 | 0.7 | 0.8 | 1.8 | 2.3 | 1.6 | 1.9 | 4.0 | 5.1 |
| 1984 | 0.3 | 0.4 | 0.8 | 1.1 | 0.6 | 0.7 | 1.8 | 2.2 | 1.5 | 1.8 | 3.9 | 5.0 |
| 1985 | 0.3 | 0.4 | 0.7 | 1.1 | 0.6 | 0.7 | 1.6 | 2.1 | 1.5 | 1.8 | 3.9 | 4.7 |
| 1986 | 0.4 | 0.4 | 0.6 | 1.2 | 0.6 | 0.7 | 1.5 | 2.0 | 1.5 | 1.8 | 3.8 | 4.5 |
| 1987 | 0.4 | 0.5 | 0.6 | 1.3 | 0.6 | 0.7 | 1.6 | 1.9 | 1.5 | 1.8 | 3.7 | 4.4 |
| 1988 | 0.4 | 0.6 | 0.8 | 1.5 | 0.7 | 0.8 | 1.7 | 2.2 | 1.6 | 2.0 | 4.1 | 4.9 |
| 1989 | 0.4 | 0.6 | 0.9 | 1.3 | 0.7 | 0.8 | 1.8 | 2.1 | 1.6 | 2.0 | 4.0 | 4.8 |
| 1990 | 0.4 | 0.6 | 0.9 | 1.2 | 0.7 | 0.8 | 1.6 | 2.0 | 1.6 | 2.0 | 3.9 | 4.5 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 2-6 Standard errors for estimated percentages in table 2-3

| October | 3- to 4-year-olds in pre-K | | | | 5-year-olds in kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Low income | Middle income | High income | Total | Low income | Middle income | High income |
| 1973 | 0.7 | 1.9 | 0.7 | 1.8 | 1.2 | 3.9 | 1.4 | 2.2 |
| 1974 | — | — | — | — | — | — | — | — |
| 1975 | 0.8 | 2.0 | 0.9 | 1.9 | 1.1 | 3.6 | 1.3 | 2.0 |
| 1976 | 0.8 | 1.7 | 0.9 | 2.1 | 1.0 | 3.2 | 1.3 | 2.1 |
| 1977 | 0.8 | 1.9 | 2.0 | 2.0 | 1.1 | 3.2 | 1.3 | 2.1 |
| 1978 | 0.9 | 2.1 | 1.0 | 2.1 | 1.1 | 3.5 | 1.4 | 2.2 |
| 1979 | 0.9 | 2.1 | 1.0 | 2.1 | 1.1 | 3.1 | 1.4 | 1.9 |
| 1980 | 0.9 | 2.1 | 1.1 | 2.1 | 1.1 | 3.0 | 1.3 | 2.0 |
| 1981 | 0.9 | 1.9 | 1.1 | 2.0 | 1.1 | 3.0 | 1.4 | 2.1 |
| 1982 | 0.9 | 2.0 | 1.1 | 2.1 | 1.1 | 2.8 | 1.5 | 2.2 |
| 1983 | 0.9 | 1.8 | 1.1 | 2.1 | 1.2 | 2.9 | 1.5 | 2.3 |
| 1984 | 0.9 | 1.6 | 1.1 | 2.1 | 1.1 | 2.6 | 1.4 | 2.4 |
| 1985 | 0.9 | 1.7 | 1.1 | 2.2 | 1.0 | 2.5 | 1.4 | 2.2 |
| 1986 | 0.9 | 1.7 | 1.1 | 2.2 | 1.0 | 2.3 | 1.3 | 2.2 |
| 1987 | 0.9 | 1.7 | 1.1 | 2.1 | 1.1 | 2.6 | 1.4 | 2.2 |
| 1988 | 0.9 | 1.8 | 1.1 | 2.0 | 1.1 | 2.6 | 1.4 | 2.3 |
| 1989 | 1.0 | 2.1 | 1.2 | 2.4 | 1.2 | 2.8 | 1.6 | 2.6 |
| 1990 | 1.0 | 2.2 | 1.3 | 2.4 | 1.2 | 2.8 | 1.5 | 2.6 |
| 1991 | 1.0 | 1.9 | 1.1 | 1.8 | 1.2 | 2.7 | 1.4 | 1.8 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 3-1 Percentage of fourth grade students who are 10-years-old or older: October 1972–91

| October | Total | Family income | | | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 20.9 | 38.9 | 21.2 | 13.0 | 24.5 | 17.2 | 18.3 | 32.2 | 31.2 |
| 1973 | 19.6 | 36.9 | 18.9 | 14.0 | 22.5 | 16.5 | 17.4 | 30.2 | 24.1 |
| 1974 | 18.8 | — | — | — | 22.0 | 15.4 | 16.5 | 28.9 | 25.3 |
| 1975 | 18.6 | 29.1 | 19.4 | 10.7 | 22.9 | 14.3 | 16.0 | 28.2 | 30.3 |
| 1976 | 19.0 | 30.2 | 19.2 | 13.1 | 21.8 | 15.9 | 16.9 | 23.9 | 33.7 |
| 1977 | 19.2 | 30.9 | 19.4 | 13.0 | 22.9 | 15.1 | 17.7 | 26.3 | 22.1 |
| 1978 | 19.6 | 34.9 | 19.7 | 12.1 | 22.5 | 16.6 | 17.7 | 27.5 | 24.8 |
| 1979 | 21.1 | 36.0 | 20.7 | 14.3 | 25.5 | 16.2 | 19.0 | 31.0 | — |
| 1980 | 21.0 | 30.7 | 21.6 | 14.7 | 24.2 | 17.5 | 18.9 | 27.6 | 28.8 |
| 1981 | 26.1 | 38.0 | 27.0 | 16.1 | 31.3 | 20.7 | 23.0 | 32.4 | 41.5 |
| 1982 | 24.7 | 34.4 | 24.8 | 17.7 | 29.9 | 19.0 | 22.6 | 30.7 | 33.4 |
| 1983 | 25.1 | 40.0 | 25.4 | 13.0 | 29.4 | 20.6 | 21.2 | 35.5 | 34.1 |
| 1984 | 24.1 | 34.9 | 23.4 | 18.3 | 28.1 | 19.8 | 21.0 | 31.1 | 35.1 |
| 1985 | 26.1 | 40.7 | 24.8 | 18.2 | 28.7 | 23.4 | 23.1 | 35.5 | 33.3 |
| 1986 | 26.4 | 40.2 | 27.2 | 15.5 | 30.9 | 21.9 | 22.6 | 35.1 | 38.7 |
| 1987 | 27.2 | 36.1 | 28.1 | 18.3 | 31.2 | 23.2 | 25.5 | 34.1 | 29.7 |
| 1988 | 27.8 | 42.1 | 26.1 | 21.3 | 32.9 | 22.5 | 25.2 | 35.5 | 32.9 |
| 1989 | 28.1 | 38.0 | 28.6 | 20.1 | 33.0 | 22.9 | 26.0 | 32.2 | 34.6 |
| 1990 | 26.8 | 37.2 | 26.1 | 20.7 | 32.1 | 21.3 | 24.5 | 35.7 | 29.1 |
| 1991 | 26.3 | 39.2 | 25.0 | 19.6 | 30.3 | 22.1 | 24.4 | 32.7 | 30.1 |

— Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 3-2 Percentage of seventh grade students who are 13-years-old or older: October 1972–91

| October | Total | Family income | | | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 24.2 | 39.3 | 25.9 | 14.3 | 29.3 | 19.1 | 21.5 | 34.2 | 39.3 |
| 1973 | 23.8 | 41.5 | 24.6 | 15.1 | 27.6 | 19.7 | 21.2 | 35.6 | 34.2 |
| 1974 | 23.4 | — | — | — | 28.8 | 17.7 | 20.2 | 32.8 | 37.7 |
| 1975 | 22.5 | 37.4 | 23.6 | 14.4 | 27.0 | 18.0 | 20.3 | 31.8 | 28.8 |
| 1976 | 21.8 | 39.5 | 21.8 | 15.4 | 25.7 | 17.7 | 20.1 | 25.9 | 34.9 |
| 1977 | 22.0 | 39.0 | 24.2 | 11.1 | 26.2 | 17.4 | 19.6 | 27.8 | 38.0 |
| 1978 | 21.8 | 39.8 | 22.0 | 14.1 | 25.8 | 17.5 | 18.5 | 32.1 | 37.1 |
| 1979 | 22.2 | 40.3 | 21.8 | 15.1 | 25.9 | 18.4 | 19.1 | 34.4 | — |
| 1980 | 24.3 | 40.2 | 24.9 | 16.8 | 28.7 | 19.5 | 21.7 | 30.3 | 36.1 |
| 1981 | 23.6 | 39.8 | 23.4 | 15.6 | 26.2 | 21.0 | 20.0 | 34.1 | 37.1 |
| 1982 | 26.1 | 46.8 | 25.3 | 16.6 | 30.5 | 21.4 | 22.4 | 38.3 | 38.3 |
| 1983 | 29.1 | 43.0 | 30.4 | 17.6 | 35.4 | 22.0 | 25.4 | 36.0 | 44.8 |
| 1984 | 29.7 | 49.7 | 28.6 | 19.0 | 33.8 | 25.2 | 25.5 | 40.6 | 43.0 |
| 1985 | 27.5 | 44.6 | 26.0 | 19.6 | 32.3 | 22.5 | 23.9 | 38.8 | 34.5 |
| 1986 | 29.6 | 47.3 | 30.0 | 18.1 | 34.1 | 24.9 | 24.4 | 43.5 | 44.8 |
| 1987 | 29.7 | 46.2 | 29.5 | 19.3 | 35.7 | 23.3 | 26.7 | 36.2 | 40.5 |
| 1988 | 30.2 | 52.9 | 28.7 | 18.3 | 36.3 | 23.7 | 25.8 | 42.6 | 43.6 |
| 1989 | 31.7 | 48.4 | 31.3 | 22.5 | 36.3 | 26.7 | 28.0 | 42.3 | 39.1 |
| 1990 | 32.7 | 50.3 | 33.4 | 20.3 | 38.2 | 26.8 | 28.0 | 45.9 | 43.7 |
| 1991 | 29.7 | 47.9 | 29.9 | 17.9 | 33.6 | 25.8 | 25.5 | 40.7 | 40.0 |

— Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 3-3 Standard errors for estimated percentages in text table for *Indicator 3*

| October | Total | Family income |  |  | Sex |  | Race/ethnicity |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 0.8 | 3.1 | 1.0 | 1.6 | 1.2 | 1.1 | 0.9 | 2.5 | 3.6 |
| 1973 | 0.8 | 3.0 | 1.0 | 1.6 | 1.2 | 1.1 | 0.9 | 2.4 | 3.5 |
| 1974 | 0.8 | — | — | — | 1.2 | 1.1 | 0.9 | 2.1 | 3.2 |
| 1975 | 0.8 | 3.0 | 1.0 | 1.6 | 1.2 | 1.1 | 0.9 | 2.2 | 3.1 |
| 1976 | 0.8 | 2.7 | 0.9 | 1.5 | 1.2 | 1.0 | 0.9 | 2.2 | 3.1 |
| 1977 | 0.8 | 2.6 | 1.0 | 1.6 | 1.3 | 1.1 | 1.0 | 2.2 | 2.9 |
| 1978 | 0.9 | 2.8 | 1.1 | 1.7 | 1.4 | 1.2 | 1.0 | 2.4 | 3.5 |
| 1979 | 0.9 | 2.7 | 1.2 | 1.6 | 1.4 | 1.3 | 1.1 | 2.3 | — |
| 1980 | 1.0 | 2.9 | 1.2 | 2.0 | 1.5 | 1.3 | 1.1 | 2.6 | 3.4 |
| 1981 | 1.0 | 2.7 | 1.2 | 1.9 | 1.4 | 1.3 | 1.1 | 2.5 | 2.8 |
| 1982 | 1.1 | 2.6 | 1.3 | 2.4 | 1.5 | 1.4 | 1.2 | 2.8 | 3.4 |
| 1983 | 1.0 | 2.7 | 1.3 | 1.9 | 1.5 | 1.4 | 1.2 | 2.6 | 3.5 |
| 1984 | 1.1 | 2.7 | 1.4 | 1.8 | 1.5 | 1.4 | 1.2 | 2.9 | 3.5 |
| 1985 | 1.1 | 2.7 | 1.3 | 2.4 | 1.5 | 1.4 | 1.2 | 2.6 | 3.4 |
| 1986 | 1.1 | 2.6 | 1.4 | 2.1 | 1.6 | 1.4 | 1.3 | 2.7 | 3.3 |
| 1987 | 1.1 | 2.8 | 1.3 | 2.3 | 1.6 | 1.5 | 1.3 | 2.8 | 3.2 |
| 1988 | 1.2 | 2.8 | 1.5 | 2.5 | 1.7 | 1.6 | 1.4 | 2.7 | 3.8 |
| 1989 | 1.2 | 3.0 | 1.5 | 2.5 | 1.7 | 1.6 | 1.5 | 2.8 | 3.7 |
| 1990 | 1.1 | 2.8 | 1.5 | 2.3 | 1.6 | 1.6 | 1.4 | 2.8 | 3.4 |
| 1991 | 1.1 | 2.8 | 1.4 | 2.2 | 1.6 | 1.5 | 1.3 | 2.9 | 3.1 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 3-4 Standard errors for estimated percentages in table 3-1

| October | Total | Family income |  |  | Sex |  | Race/ethnicity |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 1.0 | 3.6 | 1.2 | 1.6 | 1.4 | 1.3 | 1.0 | 3.0 | 4.0 |
| 1973 | 1.0 | 3.5 | 1.2 | 1.6 | 1.4 | 1.3 | 1.0 | 3.0 | 3.7 |
| 1974 | 1.0 | — | — | — | 1.4 | 1.3 | 1.1 | 2.9 | 3.9 |
| 1975 | 1.0 | 3.2 | 1.3 | 1.6 | 1.5 | 1.3 | 1.1 | 2.9 | 4.2 |
| 1976 | 1.0 | 3.4 | 1.3 | 1.8 | 1.5 | 1.4 | 1.1 | 2.7 | 4.3 |
| 1977 | 1.0 | 3.5 | 1.3 | 1.8 | 1.5 | 1.4 | 1.1 | 3.0 | 3.8 |
| 1978 | 1.0 | 3.6 | 1.3 | 1.7 | 1.5 | 1.4 | 1.1 | 3.1 | 3.8 |
| 1979 | 1.0 | 3.5 | 1.3 | 1.8 | 1.5 | 1.4 | 1.1 | 2.9 | — |
| 1980 | 1.1 | 3.5 | 1.4 | 1.8 | 1.6 | 1.4 | 1.2 | 3.0 | 3.7 |
| 1981 | 1.1 | 3.3 | 1.5 | 2.0 | 1.7 | 1.5 | 1.3 | 3.2 | 3.9 |
| 1982 | 1.2 | 3.3 | 1.5 | 2.3 | 1.8 | 1.6 | 1.4 | 3.3 | 4.1 |
| 1983 | 1.2 | 3.5 | 1.6 | 2.1 | 1.8 | 1.6 | 1.4 | 3.4 | 4.2 |
| 1984 | 1.2 | 3.4 | 1.5 | 2.4 | 1.8 | 1.6 | 1.4 | 3.4 | 4.2 |
| 1985 | 1.3 | 3.3 | 1.6 | 2.3 | 1.8 | 1.7 | 1.4 | 3.5 | 4.1 |
| 1986 | 1.2 | 3.6 | 1.6 | 2.1 | 1.8 | 1.7 | 1.4 | 3.4 | 4.3 |
| 1987 | 1.2 | 3.3 | 1.6 | 2.2 | 1.8 | 1.7 | 1.4 | 3.4 | 4.0 |
| 1988 | 1.3 | 3.6 | 1.7 | 2.6 | 2.0 | 1.8 | 1.6 | 3.6 | 4.4 |
| 1989 | 1.3 | 3.5 | 1.7 | 2.4 | 1.9 | 1.8 | 1.5 | 3.5 | 4.7 |
| 1990 | 1.2 | 3.3 | 1.6 | 2.5 | 1.8 | 1.7 | 1.5 | 3.4 | 4.3 |
| 1991 | 1.2 | 3.2 | 1.6 | 2.3 | 1.8 | 1.8 | 1.5 | 3.6 | 4.1 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 3-5 Standard errors for estimated percentages in table 3-2

| October | Total | Family income | | | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Low | Middle | High | Male | Female | White | Black | Hispanic |
| 1972 | 1.0 | 3.7 | 1.3 | 1.6 | 1.5 | 1.3 | 1.1 | 3.0 | 4.5 |
| 1973 | 1.0 | 3.6 | 1.3 | 1.6 | 1.5 | 1.3 | 1.1 | 3.0 | 4.3 |
| 1974 | 1.0 | — | — | — | 1.5 | 1.3 | 1.1 | 2.8 | 4.1 |
| 1975 | 1.0 | 3.5 | 1.3 | 1.6 | 1.5 | 1.3 | 1.1 | 2.9 | 3.8 |
| 1976 | 1.0 | 3.7 | 1.3 | 1.6 | 1.5 | 1.3 | 1.1 | 2.8 | 4.4 |
| 1977 | 1.0 | 3.7 | 1.4 | 1.4 | 1.5 | 1.3 | 1.1 | 2.9 | 4.7 |
| 1978 | 1.1 | 3.8 | 1.3 | 1.7 | 1.6 | 1.4 | 1.1 | 3.1 | 4.5 |
| 1979 | 1.1 | 3.7 | 1.3 | 1.8 | 1.6 | 1.4 | 1.1 | 3.1 | — |
| 1980 | 1.1 | 3.7 | 1.5 | 1.8 | 1.6 | 1.5 | 1.2 | 3.1 | 4.1 |
| 1981 | 1.1 | 3.4 | 1.4 | 1.8 | 1.6 | 1.5 | 1.2 | 3.1 | 4.1 |
| 1982 | 1.2 | 3.5 | 1.5 | 1.9 | 1.7 | 1.6 | 1.3 | 3.3 | 4.2 |
| 1983 | 1.2 | 3.4 | 1.5 | 2.0 | 1.7 | 1.6 | 1.3 | 3.2 | 3.8 |
| 1984 | 1.3 | 3.5 | 1.6 | 2.2 | 1.8 | 1.8 | 1.4 | 3.7 | 4.1 |
| 1985 | 1.2 | 3.4 | 1.6 | 2.2 | 1.8 | 1.7 | 1.4 | 3.4 | 4.2 |
| 1986 | 1.3 | 3.6 | 1.7 | 2.1 | 1.9 | 1.7 | 1.4 | 3.6 | 4.2 |
| 1987 | 1.3 | 3.4 | 1.7 | 2.2 | 1.9 | 1.7 | 1.5 | 3.4 | 4.1 |
| 1988 | 1.4 | 3.8 | 1.8 | 2.4 | 2.1 | 1.9 | 1.6 | 3.8 | 5.1 |
| 1989 | 1.4 | 3.8 | 1.8 | 2.5 | 2.0 | 1.9 | 1.6 | 3.7 | 4.8 |
| 1990 | 1.3 | 3.6 | 1.8 | 2.3 | 1.9 | 1.8 | 1.5 | 3.5 | 4.4 |
| 1991 | 1.3 | 3.6 | 1.7 | 2.2 | 1.9 | 1.8 | 1.5 | 3.3 | 4.3 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-1 Percentage of high school students in grades 10–12, ages 15–24, enrolled the previous October who are enrolled again the following October or graduated, by sex and race/ethnicity: October 1972–91

| October | Total | Male | Female | White | Black | Hispanic | Male |  |  | Female |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | White | Black | Hispanic | White | Black | Hispanic |
| 1972 | 93.9 | 94.1 | 93.7 | 94.7 | 90.5 | 88.8 | 95.0 | 90.2 | 88.5 | 94.4 | 90.7 | 89.1 |
| 1973 | 93.7 | 93.2 | 94.3 | 94.5 | 90.1 | 90.0 | 94.0 | 88.2 | 92.1 | 95.0 | 91.8 | 88.2 |
| 1974 | 93.3 | 92.6 | 94.0 | 94.2 | 88.4 | 90.1 | 93.4 | 89.2 | 87.2 | 95.1 | 87.7 | 92.9 |
| 1975 | 94.2 | 94.6 | 93.9 | 95.0 | 91.3 | 89.1 | 95.3 | 91.6 | 89.7 | 94.6 | 91.0 | 88.4 |
| 1976 | 94.1 | 93.5 | 94.8 | 94.4 | 92.6 | 92.7 | 93.7 | 91.5 | 92.4 | 95.1 | 93.7 | 92.9 |
| 1977 | 93.5 | 93.1 | 93.9 | 93.9 | 91.4 | 92.2 | 93.4 | 92.2 | 90.2 | 94.4 | 90.7 | 94.7 |
| 1978 | 93.3 | 92.5 | 94.1 | 94.2 | 89.8 | 87.7 | 93.6 | 89.0 | 84.1 | 94.9 | 90.5 | 91.5 |
| 1979 | 93.3 | 93.2 | 93.3 | 94.0 | 90.1 | 90.2 | 93.6 | 92.2 | 89.5 | 94.3 | 88.3 | 90.9 |
| 1980 | 93.9 | 93.3 | 94.5 | 94.8 | 91.8 | 88.3 | 94.3 | 92.3 | 82.4 | 95.2 | 91.3 | 93.3 |
| 1981 | 94.1 | 94.0 | 94.2 | 95.2 | 90.3 | 89.3 | 94.8 | 90.6 | 89.3 | 95.5 | 90.0 | 89.3 |
| 1982 | 94.5 | 94.2 | 94.9 | 95.3 | 92.2 | 90.8 | 95.1 | 91.1 | 90.5 | 95.4 | 93.4 | 91.2 |
| 1983 | 94.8 | 94.2 | 95.3 | 95.6 | 93.0 | 89.9 | 95.3 | 93.1 | 86.2 | 96.0 | 92.9 | 93.8 |
| 1984 | 94.9 | 94.6 | 95.2 | 95.6 | 94.3 | 88.9 | 95.2 | 94.0 | 87.7 | 95.9 | 94.5 | 89.8 |
| 1985 | 94.8 | 94.6 | 95.0 | 95.7 | 92.2 | 90.2 | 95.4 | 91.7 | 90.6 | 95.9 | 92.7 | 90.0 |
| 1986 | 95.3 | 95.3 | 95.3 | 96.3 | 94.6 | 88.1 | 96.2 | 94.9 | 87.6 | 96.3 | 94.3 | 88.7 |
| 1987 | 95.9 | 95.7 | 96.2 | 96.5 | 93.6 | 94.6 | 96.1 | 93.8 | 95.2 | 96.9 | 93.3 | 94.0 |
| 1988 | 95.2 | 94.9 | 95.6 | 95.8 | 94.1 | 89.6 | 95.7 | 93.8 | 87.7 | 95.9 | 94.4 | 91.8 |
| 1989 | 95.5 | 95.5 | 95.5 | 96.5 | 92.2 | 92.2 | 96.3 | 93.0 | 92.2 | 96.7 | 91.4 | 92.3 |
| 1990 | 96.0 | 96.0 | 96.1 | 96.7 | 95.0 | 92.1 | 96.5 | 95.8 | 91.3 | 96.9 | 94.3 | 92.8 |
| 1991 | 96.0 | 96.2 | 95.8 | 96.8 | 94.0 | 92.7 | 97.2 | 94.7 | 89.9 | 96.3 | 93.2 | 95.4 |

NOTE: Data for 1987 through 1991 reflect new editing procedures instituted by the Bureau of the Census for cases with missing data on school enrollment items.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

**Table 4-2** Percentage of high school students in grades 10–12, ages 15–24, enrolled the previous October who are enrolled again the following October or graduated, by family income: October 1972–91

| October | Total | Low income | Middle income | High income |
|---|---|---|---|---|
| 1972 | 93.9 | 86.2 | 93.3 | 97.5 |
| 1973 | 93.7 | 82.9 | 93.2 | 98.2 |
| 1974 | — | — | — | — |
| 1975 | 94.2 | 84.7 | 94.1 | 97.4 |
| 1976 | 94.1 | 85.0 | 93.3 | 97.9 |
| 1977 | 93.5 | 84.9 | 92.5 | 97.8 |
| 1978 | 93.3 | 82.9 | 92.8 | 97.0 |
| 1979 | 93.3 | 83.3 | 93.2 | 96.4 |
| 1980 | 93.9 | 84.5 | 93.7 | 97.6 |
| 1981 | 94.1 | 86.0 | 94.0 | 97.2 |
| 1982 | 94.5 | 85.3 | 94.6 | 98.2 |
| 1983 | 94.8 | 89.9 | 94.1 | 97.8 |
| 1984 | 94.9 | 86.8 | 95.0 | 98.2 |
| 1985 | 94.8 | 86.3 | 94.9 | 97.9 |
| 1986 | 95.3 | 89.5 | 95.0 | 98.4 |
| 1987 | 95.9 | 90.1 | 95.5 | 99.1 |
| 1988 | 95.2 | 86.6 | 95.3 | 98.9 |
| 1989 | 95.5 | 90.0 | 95.0 | 98.9 |
| 1990 | 96.0 | 90.7 | 95.8 | 98.9 |
| 1991 | 96.0 | 89.4 | 96.0 | 99.0 |

— Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income. Data for 1987 through 1991 reflect new editing procedures instituted by the Bureau of the Census for cases with missing data on school environment items.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-3 Percentage of college students 16- to 24-years-old enrolled the previous October who are enrolled again the following October, by race/ethnicity and level: October 1972–91

| October | Total | Race/ethnicity | | | College level previous October | | |
|---|---|---|---|---|---|---|---|
| | | White | Black | Hispanic | 1st year | 2nd year | 3rd year |
| 1972 | 77.7 | 78.1 | 71.3 | 78.1 | 76.9 | 72.7 | 86.2 |
| 1973 | 76.7 | 76.8 | 77.2 | 73.8 | 73.5 | 74.2 | 85.5 |
| 1974 | 77.5 | 77.4 | 74.3 | 76.0 | 75.1 | 73.8 | 85.9 |
| 1975 | 79.3 | 79.9 | 77.0 | 72.8 | 78.7 | 73.6 | 87.6 |
| 1976 | 79.2 | 79.3 | 81.3 | 74.9 | 80.0 | 73.6 | 85.4 |
| 1977 | 79.2 | 79.3 | 79.1 | 75.9 | 77.6 | 75.4 | 87.0 |
| 1978 | 77.7 | 77.8 | 75.3 | 76.7 | 76.8 | 73.8 | 84.4 |
| 1979 | 77.8 | 78.4 | 73.6 | 72.4 | 77.9 | 72.9 | 83.9 |
| 1980 | 79.0 | 80.2 | 71.0 | 69.2 | 78.8 | 73.7 | 86.7 |
| 1981 | 78.0 | 79.4 | 72.3 | 72.5 | 77.0 | 73.9 | 84.9 |
| 1982 | 80.4 | 81.2 | 74.6 | 77.4 | 79.5 | 78.1 | 84.9 |
| 1983 | 80.3 | 81.1 | 74.8 | 74.4 | 80.0 | 75.5 | 87.1 |
| 1984 | 79.1 | 79.8 | 74.2 | 72.8 | 77.9 | 75.4 | 86.7 |
| 1985 | 79.7 | 81.0 | 71.4 | 67.7 | 78.0 | 76.3 | 87.1 |
| 1986 | 80.2 | 80.5 | 74.4 | 81.7 | 81.0 | 74.1 | 87.2 |
| 1987 | 81.3 | 82.9 | 69.6 | 74.9 | 81.4 | 77.2 | 87.1 |
| 1988 | 83.0 | 83.7 | 78.0 | 77.0 | 81.2 | 79.8 | 90.7 |
| 1989 | 83.8 | 84.3 | 79.0 | 81.1 | 82.1 | 82.2 | 88.8 |
| 1990 | 81.8 | 81.7 | 79.4 | 79.7 | 81.8 | 75.9 | 89.7 |
| 1991 | 84.1 | 84.4 | 77.8 | 80.8 | 82.2 | 81.8 | 90.0 |

NOTE: See supplemental note for a description of the method used to determine a respondent's enrollment the previous October.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 4-4 Continuous attendance and grade level progression rates of students 15 to 24-years-old, by sex, race/ethnicity, and grade level the previous October: October 1991

| Grade last year | Total | Sex | | Race/ethnicity | | |
|---|---|---|---|---|---|---|
| | | Male | Female | White | Black | Hispanic |
| **Continuous attendance rate (percent)** | | | | | | |
| 9–11 average | 97.0 | 97.2 | 96.7 | 97.5 | 95.3 | 94.8 |
| 9 | 97.7 | 97.9 | 97.5 | 98.5 | 96.0 | 94.6 |
| 10 | 96.5 | 97.0 | 96.0 | 96.8 | 95.2 | 96.0 |
| 11 | 96.7 | 96.7 | 96.6 | 97.3 | 94.8 | 93.6 |
| 12 | 62.7 | 57.9 | 67.6 | 65.1 | 48.7 | 60.8 |
| 13–15 average | 83.8 | 84.7 | 83.0 | 83.9 | 80.1 | 81.3 |
| 13 | 81.5 | 82.4 | 80.7 | 81.3 | 79.5 | 80.1 |
| 14 | 82.2 | 82.6 | 81.8 | 82.1 | 77.9 | 78.5 |
| 15 | 90.2 | 91.8 | 88.7 | 90.6 | 84.7 | (*) |
| 16 | 44.5 | 47.6 | 41.5 | 43.6 | (*) | (*) |
| 17 | 74.1 | 85.5 | 71.3 | 70.5 | (*) | (*) |
| **Grade level progression rate (percent)** | | | | | | |
| 9–11 average | 97.0 | 96.3 | 97.8 | 98.0 | 94.1 | 95.1 |
| 9 | 96.7 | 95.7 | 97.8 | 97.8 | 93.9 | 94.6 |
| 10 | 96.9 | 96.2 | 97.7 | 97.9 | 93.0 | 96.1 |
| 11 | 97.3 | 96.9 | 97.9 | 98.1 | 95.5 | 94.6 |
| 12 | 93.9 | 91.9 | 95.6 | 95.4 | 86.9 | 86.1 |
| 13–15 average | 87.8 | 86.8 | 88.8 | 89.8 | 84.8 | 71.5 |
| 13 | 86.5 | 85.0 | 88.2 | 89.9 | 83.7 | 63.3 |
| 14 | 85.4 | 84.1 | 86.5 | 85.9 | 87.4 | 78.5 |
| 15 | 92.7 | 93.3 | 92.6 | 93.8 | 84.4 | (*) |
| 16 | 65.8 | 63.3 | 68.5 | 65.8 | (*) | (*) |
| 17 | 80.2 | 80.4 | 83.2 | 81.2 | (*) | (*) |

*Too few sample observations for a reliable estimate.

NOTE: The continuous attendance rate is the percentage of those enrolled the previous October who were enrolled again the following October. The grade level progression rate is the percentage of those enrolled two consecutive Octobers who advanced at least one grade level. At most grade levels, the continuous attendance rate is conceptually similar to the school persistence rate of table 4-1, but is numerically slightly different because of data used to measure grade level the previous October. However, the continuous attendance rate for grade 12 is the percentage of in grade 12 the previous October who enrolled in college (or in grade 12 again) the following October. Similarly, the continuous attendance rate for grade 16 (4th year of college) is the percentage of students in grade 16 the previous October who enrolled in the 5th year of college (or in the 4th year again) the following October.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 25-1 Percentage of high school graduates taking selected mathematics and science courses, by sex: 1982, 1987, and 1990

| Courses (credits) | 1982 | | | 1987 | | | 1990 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Mathematics | | | | | | | | | |
| Any mathematics (1.00) | 97.5 | 97.6 | 97.3 | 99.4 | 99.3 | 99.4 | 99.6 | 99.4 | 99.7 |
| Remedial/below grade math (1.00) | 32.7 | 35.9 | 29.6 | 24.9 | 26.7 | 23.2 | 23.6 | 25.7 | 21.7 |
| Algebra I (1.00) | 65.1 | 63.3 | 66.8 | 76.3 | 75.3 | 77.2 | 77.3 | 75.6 | 78.8 |
| Algebra II (0.50) | 35.1 | 35.3 | 34.9 | 47.1 | 45.8 | 48.4 | 49.2 | 47.8 | 50.5 |
| Geometry (1.00) | 45.7 | 45.0 | 46.4 | 61.5 | 61.2 | 61.7 | 64.7 | 63.9 | 65.4 |
| Trigonometry (0.50) | 12.0 | 12.9 | 11.3 | 19.0 | 20.3 | 17.8 | 18.4 | 18.4 | 18.3 |
| Analysis/pre-calculus (0.50) | 5.8 | 6.0 | 5.6 | 12.8 | 14.0 | 11.6 | 13.5 | 14.3 | 12.9 |
| Calculus (1.00) | 4.7 | 5.3 | 4.2 | 6.2 | 7.7 | 4.7 | 6.6 | 7.7 | 5.6 |
| AP calculus (1.00) | 1.5 | 1.7 | 1.3 | 3.4 | 4.0 | 2.8 | 4.2 | 5.1 | 3.4 |
| Algebra II and geometry (1.50) | 27.5 | 27.9 | 27.1 | 42.4 | 41.5 | 43.3 | 44.0 | 43.0 | 45.0 |
| Algebra II, geometry, and trigonometry (2.00) | 7.2 | 8.1 | 6.4 | 14.7 | 15.2 | 14.1 | 12.5 | 12.7 | 12.4 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 1.0 | 1.2 | 0.7 | 2.4 | 2.9 | 1.9 | 2.2 | 2.5 | 1.8 |
| Science | | | | | | | | | |
| Any science (1.00) | 95.2 | 94.9 | 95.6 | 98.7 | 98.4 | 99.0 | 99.4 | 99.2 | 99.7 |
| Biology (1.00) | 75.3 | 73.3 | 77.1 | 88.3 | 87.0 | 89.7 | 91.6 | 90.4 | 92.7 |
| AP/honors biology (1.00) | 6.6 | 6.1 | 7.1 | 2.8 | 2.8 | 2.7 | 5.0 | 4.5 | 5.4 |
| Chemistry (1.00) | 30.8 | 31.7 | 30.0 | 44.8 | 45.9 | 43.7 | 49.6 | 48.8 | 50.4 |
| AP/honors chemistry (1.00) | 2.9 | 3.5 | 2.4 | 3.4 | 4.0 | 2.8 | 3.5 | 4.2 | 2.9 |
| Physics (1.00) | 13.9 | 18.2 | 10.0 | 19.5 | 24.6 | 14.8 | 21.5 | 25.5 | 17.8 |
| AP/honors physics (1.00) | 1.1 | 1.4 | 0.7 | 1.7 | 2.5 | 0.9 | 2.1 | 2.6 | 1.6 |
| Engineering (1.00) | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Astronomy (0.50) | 1.1 | 1.2 | 1.0 | 1.0 | 1.1 | 0.8 | 1.3 | 1.5 | 1.1 |
| Geology (0.50) | 13.9 | 14.8 | 13.0 | 14.9 | 15.6 | 14.1 | 25.3 | 26.2 | 24.5 |
| Biology and chemistry (2.00) | 28.0 | 27.9 | 28.1 | 43.0 | 43.7 | 42.3 | 48.2 | 47.2 | 49.1 |
| Biology, chemistry, and physics (3.00) | 10.5 | 13.3 | 8.0 | 16.8 | 20.8 | 12.9 | 18.9 | 22.1 | 16.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-2 Percentage of high school graduates taking selected mathematics and science courses, by race/ethnicity: 1982, 1987, and 1990

| Courses (credits) | 1982 | | | | | 1987 | | | | | 1990 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | White | Black | Hispanic | Asian | Other | White | Black | Hispanic | Asian | Other | White | Black | Hispanic | Asian | Other |
| Mathematics | | | | | | | | | | | | | | | |
| Any mathematics (1.00) | 97.7 | 97.8 | 95.5 | 99.3 | 96.7 | 99.3 | 99.5 | 99.4 | 100.0 | 99.4 | 99.7 | 98.7 | 99.8 | 99.9 | 100.0 |
| Remedial/below grade math (1.00) | 27.5 | 53.2 | 47.0 | 19.4 | 47.7 | 20.6 | 46.5 | 42.5 | 16.3 | 40.7 | 20.0 | 35.4 | 38.3 | 19.9 | 37.7 |
| Algebra I (1.00) | 68.1 | 57.5 | 55.1 | 66.2 | 50.8 | 77.7 | 70.7 | 73.1 | 68.5 | 78.0 | 77.2 | 77.6 | 81.4 | 71.6 | 72.2 |
| Algebra II (0.50) | 38.7 | 24.2 | 20.8 | 56.4 | 21.2 | 51.9 | 32.4 | 30.2 | 67.2 | 28.5 | 52.4 | 39.0 | 38.6 | 59.5 | 47.3 |
| Geometry (1.00) | 51.2 | 28.5 | 25.8 | 64.3 | 28.8 | 65.1 | 44.0 | 40.2 | 81.4 | 48.4 | 67.2 | 56.3 | 54.4 | 72.1 | 54.5 |
| Trigonometry (0.50) | 13.7 | 6.0 | 6.4 | 28.2 | 4.3 | 20.9 | 10.9 | 9.9 | 42.1 | 6.5 | 19.6 | 14.1 | 11.0 | 35.2 | 15.6 |
| Analysis/pre-calculus (0.50) | 6.7 | 2.2 | 3.0 | 13.7 | 1.2 | 13.5 | 5.1 | 7.4 | 39.6 | 7.5 | 15.0 | 6.2 | 7.3 | 25.5 | 8.5 |
| Calculus (1.00) | 5.5 | 1.4 | 1.8 | 13.2 | 2.6 | 5.9 | 2.3 | 3.6 | 29.8 | 3.2 | 7.0 | 2.8 | 3.9 | 18.6 | 6.1 |
| AP calculus (1.00) | 1.8 | 0.3 | 0.4 | 5.6 | 0.1 | 2.8 | 1.4 | 2.6 | 24.0 | 1.3 | 4.3 | 1.2 | 3.0 | 15.6 | 4.2 |
| Algebra II and geometry (1.50) | 31.3 | 16.1 | 13.2 | 41.6 | 15.9 | 47.0 | 28.6 | 24.3 | 62.4 | 23.5 | 47.2 | 32.9 | 34.5 | 53.2 | 37.8 |
| Algebra II, geometry, and trigonometry (2.0) | 8.3 | 3.0 | 3.9 | 14.9 | 2.7 | 16.9 | 8.0 | 7.4 | 31.1 | 3.5 | 13.6 | 8.1 | 8.6 | 21.5 | 10.3 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 1.1 | 0.2 | 0.5 | 2.5 | 0.0 | 2.3 | 1.2 | 2.2 | 14.5 | 1.0 | 2.3 | 1.1 | 1.5 | 6.5 | 3.2 |
| Science | | | | | | | | | | | | | | | |
| Any science (1.00) | 95.8 | 95.4 | 91.6 | 95.3 | 93.4 | 98.7 | 98.7 | 98.5 | 99.4 | 98.6 | 99.5 | 99.0 | 99.3 | 99.8 | 99.5 |
| Biology (1.00) | 77.3 | 70.9 | 67.2 | 82.2 | 64.0 | 89.2 | 86.2 | 85.4 | 91.5 | 88.8 | 92.0 | 91.0 | 90.3 | 90.5 | 91.1 |
| AP/honors biology (1.00) | 7.4 | 4.4 | 3.2 | 12.2 | 3.0 | 2.8 | 1.5 | 1.6 | 4.3 | 0.9 | 5.1 | 3.8 | 2.4 | 6.4 | 3.2 |
| Chemistry (1.00) | 34.2 | 20.5 | 15.4 | 51.4 | 28.8 | 47.7 | 29.8 | 29.4 | 69.9 | 30.1 | 52.3 | 40.3 | 38.8 | 64.1 | 38.6 |
| AP/honors chemistry (1.00) | 3.3 | 1.6 | 1.4 | 5.7 | 1.1 | 3.5 | 1.2 | 2.3 | 13.9 | 0.8 | 3.8 | 2.5 | 1.2 | 7.7 | 4.8 |
| Physics (1.00) | 16.0 | 6.9 | 5.6 | 33.8 | 7.2 | 20.9 | 10.1 | 9.8 | 47.1 | 11.5 | 23.1 | 14.5 | 13.0 | 38.4 | 18.9 |
| AP/honors physics (1.00) | 1.2 | 0.9 | 0.4 | 3.5 | 0.0 | 1.7 | 0.4 | 0.8 | 5.7 | 1.8 | 2.1 | 0.7 | 1.0 | 5.9 | 2.7 |
| Engineering (1.00) | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.4 | 0.1 | 0.4 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Astronomy (0.50) | 1.3 | 0.4 | 0.5 | 0.0 | 0.0 | 0.9 | 0.3 | 0.8 | 0.7 | 0.7 | 1.4 | 0.4 | 1.1 | 0.7 | 2.2 |
| Geology (0.50) | 14.8 | 10.3 | 11.2 | 11.3 | 14.3 | 14.4 | 18.8 | 11.8 | 13.3 | 13.4 | 28.3 | 15.8 | 14.2 | 15.6 | 30.6 |
| Biology and chemistry (2.00) | 31.3 | 18.3 | 13.9 | 46.9 | 20.2 | 46.0 | 28.6 | 28.2 | 66.0 | 27.8 | 50.9 | 39.6 | 36.8 | 60.5 | 37.6 |
| Biology, chemistry, and physics (3.00) | 12.1 | 4.6 | 3.9 | 27.3 | 6.4 | 17.9 | 8.8 | 8.2 | 42.4 | 8.4 | 20.7 | 12.1 | 10.2 | 33.8 | 16.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## **Table 25-3** Percentage of high school graduates taking selected mathematics and science courses, by urbanicity: 1987 and 1990

| Courses (credits) | 1987 | | | | 1990 | | | |
|---|---|---|---|---|---|---|---|---|
| | Big city | Urban fringe | Medium city | Small place | Big city | Urban fringe | Medium city | Small place |
| Mathematics | | | | | | | | |
| Any mathematics (1.00) | 99.6 | 98.9 | 99.7 | 99.5 | 99.5 | 99.7 | 99.6 | 99.5 |
| Remedial/below grade math (1.00) | 28.4 | 20.3 | 24.1 | 27.1 | 21.8 | 20.1 | 25.5 | 25.6 |
| Algebra I (1.00) | 72.5 | 75.6 | 76.0 | 78.1 | 74.1 | 78.7 | 78.4 | 77.1 |
| Algebra II (1.00) | 37.2 | 51.7 | 50.5 | 46.1 | 52.8 | 46.9 | 47.2 | 50.0 |
| Geometry (1.00) | 58.8 | 67.4 | 62.4 | 58.0 | 66.8 | 71.7 | 63.7 | 60.5 |
| Trigonometry (0.50) | 19.1 | 25.8 | 21.4 | 13.5 | 27.0 | 23.0 | 20.2 | 12.8 |
| Analysis/pre-calculus (0.50) | 14.8 | 13.9 | 15.1 | 10.5 | 14.5 | 17.1 | 13.5 | 11.3 |
| Calculus (1.00) | 7.3 | 9.1 | 5.5 | 4.0 | 10.0 | 8.1 | 6.0 | 4.9 |
| AP calculus (1.00) | 5.2 | 5.9 | 2.4 | 1.4 | 7.6 | 6.1 | 4.6 | 2.0 |
| Algebra II and geometry (1.50) | 34.7 | 47.5 | 45.8 | 40.4 | 47.0 | 44.6 | 43.5 | 43.0 |
| Algebra II, geometry, and trigonometry (2.00) | 12.0 | 19.6 | 16.3 | 11.7 | 19.9 | 13.5 | 13.7 | 9.5 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 1.7 | 4.5 | 1.5 | 1.5 | 5.1 | 1.5 | 1.6 | 1.8 |
| Science | | | | | | | | |
| Any science (1.00) | 99.3 | 98.2 | 98.6 | 98.9 | 99.6 | 99.4 | 99.8 | 99.3 |
| Biology (1.00) | 88.3 | 87.1 | 88.4 | 89.2 | 94.0 | 89.9 | 91.5 | 91.9 |
| AP/honors biology (1.00) | 2.6 | 3.9 | 4.0 | 1.7 | 5.8 | 3.9 | 4.2 | 5.5 |
| Chemistry (1.00) | 39.8 | 51.7 | 46.2 | 41.1 | 51.6 | 53.9 | 49.4 | 46.8 |
| AP/honors chemistry (1.00) | 3.3 | 4.0 | 5.7 | 2.1 | 3.4 | 4.2 | 3.9 | 3.1 |
| Physics (1.00) | 18.8 | 22.5 | 17.8 | 18.4 | 22.5 | 24.3 | 21.6 | 19.6 |
| AP/honors physics (1.00) | 1.8 | 2.0 | 2.8 | 1.0 | 4.8 | 2.0 | 2.4 | 1.2 |
| Engineering (1.00) | 0.4 | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 |
| Astronomy (0.50) | 1.4 | 1.6 | 0.7 | 0.5 | 2.9 | 1.2 | 1.3 | 0.8 |
| Geology (0.50) | 14.2 | 18.7 | 12.4 | 13.4 | 15.9 | 25.3 | 18.8 | 29.7 |
| Biology and chemistry (2.00) | 37.9 | 49.1 | 44.7 | 39.9 | 49.9 | 51.7 | 48.9 | 45.6 |
| Biology chemistry, and physics (3.00) | 15.0 | 19.5 | 15.9 | 15.9 | 19.9 | 21.2 | 19.4 | 17.2 |

SOURCE: United States Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1992.

## Table 25-4 Percentage of high school graduates taking selected mathematics and science courses, by control of school: 1982, 1987, and 1990

| Courses (credits) | 1982 | | 1987 | | 1990 | |
|---|---|---|---|---|---|---|
| | Public | Private | Public | Private | Public | Private |
| Mathematics | | | | | | |
| Any mathematics (1.00) | 97.2 | 99.7 | 99.3 | 99.9 | 99.5 | 99.8 |
| Remedial/below grade math (1.00) | 34.5 | 17.6 | 26.8 | 7.1 | 25.0 | 9.8 |
| Algebra I (1.00) | 63.1 | 82.2 | 75.5 | 84.0 | 76.4 | 85.7 |
| Algebra II (0.50) | 33.0 | 52.1 | 45.0 | 67.5 | 47.8 | 63.1 |
| Geometry (1.00) | 42.1 | 76.0 | 58.9 | 85.8 | 62.5 | 85.5 |
| Trigonometry (0.50) | 10.9 | 21.4 | 18.0 | 28.4 | 17.5 | 27.3 |
| Analysis/pre-calculus (0.50) | 5.0 | 12.2 | 11.7 | 23.4 | 12.3 | 25.4 |
| Calculus (1.00) | 3.8 | 12.2 | 5.7 | 11.1 | 6.3 | 9.7 |
| AP calculus (1.00) | 1.3 | 3.2 | 3.2 | 5.6 | 3.9 | 7.1 |
| Algebra II and geometry (1.50) | 25.2 | 46.7 | 40.2 | 63.4 | 42.5 | 58.6 |
| Algebra II, geometry, and trigonometry (2.00) | 6.7 | 11.1 | 14.2 | 19.0 | 12.4 | 14.1 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 0.8 | 2.1 | 2.5 | 1.6 | 2.3 | 1.0 |
| Science | | | | | | |
| Any science (1.00) | 94.8 | 98.7 | 98.6 | 99.9 | 99.4 | 99.9 |
| Biology (1.00) | 73.4 | 90.8 | 87.5 | 96.4 | 91.1 | 97.0 |
| AP/honors biology (1.00) | 6.5 | 7.5 | 2.2 | 8.1 | 5.1 | 3.9 |
| Chemistry (1.00) | 28.6 | 49.2 | 42.0 | 70.9 | 47.9 | 67.0 |
| AP/honors chemistry (1.00) | 2.7 | 5.0 | 3.2 | 5.0 | 3.7 | 2.1 |
| Physics (1.00) | 13.0 | 21.9 | 18.5 | 29.2 | 20.4 | 31.6 |
| AP/honors physics (1.00) | 1.0 | 1.4 | 1.4 | 4.7 | 1.9 | 3.2 |
| Engineering (1.00) | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| Astronomy (0.50) | 1.2 | 0.1 | 1.1 | 0.3 | 1.3 | 0.7 |
| Geology (0.50) | 14.4 | 9.2 | 15.2 | 11.6 | 25.6 | 22.1 |
| Biology and chemistry (2.00) | 25.8 | 46.6 | 40.2 | 69.3 | 46.5 | 65.3 |
| Biology, chemistry, and physics (3.00) | 9.7 | 17.3 | 15.9 | 25.2 | 19.9 | 28.3 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-5 Standard errors for estimated percentages in text table for *Indicator 25*

| Courses (credits) | 1982 High School and Beyond Study | 1987 High School Transcript Study | 1990 High School Transcript Study | Percent point change 1982–1987 | Percent point change 1987–1990 |
|---|---|---|---|---|---|
| Mathematics | | | | | |
| Any mathematics | 0.3 | 0.2 | 0.1 | 0.4 | 0.2 |
| Remedial/below grade math | 0.7 | 1.3 | 1.6 | 1.5 | 2.0 |
| Algebra I | 0.8 | 0.8 | 1.2 | 1.2 | 1.4 |
| Algebra II | 0.9 | 1.8 | 1.4 | 2.0 | 2.3 |
| Geometry | 0.8 | 0.9 | 1.3 | 1.2 | 1.6 |
| Trigonometry | 0.6 | 1.5 | 1.3 | 1.6 | 2.0 |
| Analysis/pre-calculus | 0.4 | 0.9 | 1.0 | 1.0 | 1.3 |
| Calculus | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 |
| Algebra II, and geometry | 0.8 | 1.7 | 1.4 | 1.9 | 2.2 |
| Algebra II, geometry, trigonometry, and calculus | 0.1 | 0.4 | 0.3 | 0.4 | 0.5 |
| Science | | | | | |
| Any science | 0.5 | 0.3 | 0.2 | 0.6 | 0.4 |
| Biology | 0.8 | 0.9 | 0.9 | 1.2 | 1.3 |
| Chemistry | 0.7 | 1.1 | 1.3 | 1.3 | 1.7 |
| Physics | 0.6 | 0.9 | 0.8 | 1.1 | 1.2 |
| Geology | 1.0 | 1.8 | 2.5 | 2.0 | 3.1 |
| Biology and chemistry | 0.6 | 1.1 | 1.3 | 1.3 | 1.7 |
| Biology, chemistry and physics | 0.4 | 0.8 | 0.7 | 0.9 | 1.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-6 Standard errors for estimated percentages in table 25-1

| Courses (credits) | 1982 | | | 1987 | | | 1990 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Mathematics | | | | | | | | | |
| Any mathematics (1.00) | 0.3 | 0.4 | 0.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 |
| Remedial/below grade math (1.00) | 0.7 | 1.0 | 1.0 | 1.3 | 1.5 | 1.2 | 1.6 | 1.7 | 1.5 |
| Algebra I (1.00) | 0.8 | 1.2 | 1.0 | 0.8 | 0.9 | 0.9 | 1.2 | 1.2 | 1.4 |
| Algebra II (0.50) | 0.9 | 1.2 | 1.2 | 1.8 | 1.9 | 1.9 | 1.4 | 1.5 | 1.5 |
| Geometry (1.00) | 0.8 | 1.2 | 1.1 | 0.9 | 1.2 | 1.0 | 1.3 | 1.5 | 1.3 |
| Trigonometry (0.50) | 0.6 | 0.8 | 0.7 | 1.5 | 1.8 | 1.4 | 1.3 | 1.4 | 1.3 |
| Analysis/pre-calculus (0.50) | 0.4 | 0.5 | 0.5 | 0.9 | 1.1 | 0.9 | 1.0 | 1.2 | 0.9 |
| Calculus (1.00) | 0.4 | 0.6 | 0.5 | 0.4 | 0.6 | 0.4 | 0.5 | 0.6 | 0.4 |
| AP calculus (1.00) | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.4 | 0.5 | 0.6 | 0.4 |
| Algebra II and geometry (1.50) | 0.8 | 1.2 | 1.1 | 1.7 | 1.8 | 1.8 | 1.4 | 1.6 | 1.5 |
| Algebra II, geometry, and trigonometry (2.00) | 0.4 | 0.6 | 0.5 | 1.3 | 1.6 | 1.3 | 1.0 | 1.1 | 1.0 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 0.1 | 0.3 | 0.1 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 |
| Science | | | | | | | | | |
| Any science (1.00) | 0.5 | 0.5 | 0.5 | 0.3 | 0.4 | 0.3 | 0.2 | 0.3 | 0.1 |
| Biology (1.00) | 0.8 | 1.1 | 0.9 | 0.9 | 1.2 | 0.7 | 0.9 | 1.0 | 0.9 |
| AP/honors biology (1.00) | 0.6 | 0.5 | 0.7 | 0.4 | 0.5 | 0.4 | 0.8 | 0.7 | 0.9 |
| Chemistry (1.00) | 0.7 | 1.1 | 1.0 | 1.1 | 1.3 | 1.2 | 1.3 | 1.4 | 1.4 |
| AP/honors chemistry (1.00) | 0.4 | 0.5 | 0.3 | 0.3 | 0.4 | 0.3 | 0.5 | 0.5 | 0.5 |
| Physics (1.00) | 0.6 | 0.9 | 0.6 | 0.9 | 1.0 | 0.9 | 0.8 | 0.9 | 0.9 |
| AP/honors physics (1.00) | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.2 | 0.4 | 0.5 | 0.3 |
| Engineering (1.00) | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| Astronomy (0.50) | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 |
| Geology (0.50) | 1.0 | 1.2 | 0.9 | 1.8 | 1.8 | 1.9 | 2.5 | 2.5 | 2.5 |
| Biology and chemistry (2.00) | 0.6 | 1.1 | 0.9 | 1.1 | 1.3 | 1.2 | 1.3 | 1.4 | 1.4 |
| Biology, chemistry, and physics (3.00) | 0.4 | 0.6 | 0.5 | 0.8 | 0.9 | 0.8 | 0.7 | 0.8 | 0.8 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-7 Standard errors for estimated percentages in table 25-2

| Courses (credits) | 1982 | | | | | 1987 | | | | | 1990 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | White | Black | Hispanic | Asian | Other | White | Black | Hispanic | Asian | Other | White | Black | Hispanic | Asian | Other |
| Mathematics | | | | | | | | | | | | | | | |
| Any mathematics (1.00) | 0.3 | 0.9 | 0.8 | 0.5 | 1.4 | 0.2 | 0.2 | 0.2 | 0.0 | 0.7 | 0.1 | 0.7 | 0.2 | 0.2 | 0.0 |
| Remedial/below grade math (1.00) | 0.8 | 2.3 | 1.6 | 2.4 | 6.6 | 1.3 | 1.9 | 3.5 | 2.7 | 4.4 | 1.8 | 2.3 | 3.3 | 2.7 | 4.8 |
| Algebra I (1.00) | 1.0 | 2.4 | 1.3 | 3.4 | 5.2 | 1.1 | 1.2 | 1.6 | 2.3 | 4.5 | 1.4 | 2.1 | 2.1 | 2.3 | 4.7 |
| Algebra II (0.50) | 1.0 | 1.8 | 1.4 | 4.3 | 4.3 | 1.9 | 1.5 | 2.0 | 5.4 | 2.8 | 1.7 | 2.9 | 2.7 | 3.9 | 4.8 |
| Geometry (1.00) | 0.9 | 1.8 | 1.4 | 2.4 | 4.6 | 1.2 | 1.9 | 1.7 | 2.9 | 3.5 | 1.4 | 2.7 | 2.8 | 2.5 | 3.4 |
| Trigonometry (0.50) | 0.7 | 0.7 | 0.9 | 2.7 | 1.3 | 1.8 | 1.1 | 0.9 | 5.3 | 2.1 | 1.4 | 1.9 | 1.5 | 3.5 | 3.2 |
| Analysis/pre-calculus (0.50) | 0.4 | 0.5 | 0.7 | 2.1 | 0.9 | 1.1 | 0.8 | 1.1 | 6.2 | 1.8 | 1.1 | 1.0 | 0.8 | 6.3 | 2.7 |
| Calculus (1.00) | 0.4 | 0.4 | 0.3 | 2.1 | 1.3 | 0.4 | 0.4 | 0.7 | 4.2 | 1.5 | 0.5 | 0.5 | 0.7 | 3.1 | 1.9 |
| AP calculus (1.00) | 0.4 | 0.1 | 0.2 | 1.1 | 0.0 | 0.3 | 0.3 | 0.6 | 4.8 | 0.7 | 0.5 | 0.3 | 0.6 | 2.6 | 1.4 |
| Algebra II and geometry (1.50) | 1.0 | 1.4 | 1.0 | 4.2 | 3.7 | 1.8 | 1.5 | 1.4 | 5.0 | 2.5 | 1.6 | 2.5 | 2.5 | 3.2 | 3.5 |
| Algebra II, geometry, and trigonometry (2.00) | 0.5 | 0.4 | 0.7 | 1.7 | 1.0 | 1.6 | 0.8 | 0.7 | 5.9 | 1.2 | 1.1 | 1.3 | 1.5 | 2.6 | 3.3 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 0.2 | 0.1 | 0.2 | 1.2 | 0.0 | 0.4 | 0.4 | 0.6 | 4.6 | 0.8 | 0.3 | 0.3 | 0.5 | 1.6 | 2.2 |
| Science | | | | | | | | | | | | | | | |
| Any science (1.00) | 0.5 | 1.2 | 1.1 | 1.3 | 2.5 | 0.4 | 0.4 | 0.6 | 0.3 | 0.8 | 0.2 | 0.7 | 0.3 | 0.2 | 0.4 |
| Biology (1.00) | 0.9 | 1.8 | 1.6 | 2.5 | 4.6 | 1.0 | 1.7 | 1.7 | 1.3 | 2.0 | 1.0 | 2.3 | 1.4 | 2.3 | 3.5 |
| AP/honors biology (1.00) | 0.7 | 1.3 | 0.6 | 2.6 | 1.1 | 0.4 | 0.4 | 0.5 | 1.2 | 0.6 | 0.7 | 1.8 | 0.7 | 2.1 | 1.5 |
| Chemistry (1.00) | 0.8 | 1.5 | 1.1 | 3.4 | 5.3 | 1.2 | 1.7 | 1.5 | 3.7 | 2.6 | 1.4 | 2.2 | 2.8 | 3.4 | 3.4 |
| AP/honors chemistry (1.00) | 0.4 | 0.5 | 0.4 | 1.8 | 0.6 | 0.4 | 0.3 | 0.6 | 2.0 | 0.5 | 0.6 | 0.9 | 0.4 | 1.8 | 1.4 |
| Physics (1.00) | 0.7 | 0.9 | 0.6 | 3.6 | 1.8 | 1.0 | 1.1 | 1.1 | 4.4 | 2.9 | 0.9 | 1.9 | 1.3 | 3.2 | 2.9 |
| AP/honors physics (1.00) | 0.2 | 0.3 | 0.1 | 1.3 | 0.0 | 0.3 | 0.1 | 0.3 | 1.5 | 0.8 | 0.4 | 0.3 | 0.4 | 2.6 | 1.4 |
| Engineering (1.00) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Astronomy (0.50) | 0.3 | 0.2 | 0.2 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.4 | 0.2 | 0.5 | 0.3 | 1.3 |
| Geology (0.50) | 1.2 | 1.3 | 1.2 | 2.8 | 2.9 | 2.2 | 2.7 | 1.8 | 3.7 | 2.4 | 3.0 | 2.5 | 3.1 | 1.9 | 8.0 |
| Biology and chemistry (2.00) | 0.7 | 1.4 | 1.0 | 3.2 | 3.7 | 1.3 | 1.7 | 1.4 | 3.9 | 2.4 | 1.4 | 2.2 | 2.6 | 2.9 | 3.4 |
| Biology, chemistry, and physics (3.00) | 0.5 | 0.7 | 0.5 | 3.2 | 1.7 | 0.8 | 1.1 | 0.8 | 4.4 | 2.5 | 0.8 | 1.3 | 1.2 | 2.4 | 2.6 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-8 Standard errors for estimated percentage in table 25-3

| Courses (credits) | 1987 Big city | 1987 Urban fringe | 1987 Medium city | 1987 Small place | 1990 Big city | 1990 Urban fringe | 1990 Medium city | 1990 Small place |
|---|---|---|---|---|---|---|---|---|
| Mathematics | | | | | | | | |
| Any mathematics (1.00) | 0.1 | 0.6 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 |
| Remedial/below grade math (1.00) | 2.6 | 2.4 | 2.7 | 1.8 | 2.6 | 2.3 | 3.3 | 2.8 |
| Algebra I (1.00) | 2.3 | 1.1 | 1.9 | 1.5 | 2.7 | 1.8 | 2.2 | 2.1 |
| Algebra II (0.50) | 3.5 | 2.6 | 3.8 | 3.9 | 3.4 | 3.2 | 4.7 | 2.3 |
| Geometry (1.00) | 3.1 | 1.8 | 3.0 | 2.0 | 3.0 | 2.1 | 4.1 | 2.0 |
| Trigonometry (0.50) | 2.7 | 2.9 | 2.3 | 2.5 | 3.3 | 2.8 | 3.2 | 1.3 |
| Analysis/pre-calculus (0.50) | 2.3 | 2.0 | 2.8 | 1.3 | 2.8 | 1.9 | 2.5 | 1.4 |
| Calculus (1.00) | 1.7 | 1.1 | 0.7 | 0.5 | 1.5 | 0.9 | 0.7 | 0.7 |
| AP calculus (1.00) | 1.5 | 1.0 | 0.5 | 0.5 | 1.6 | 0.9 | 0.9 | 0.4 |
| Algebra II and geometry (1.50) | 3.4 | 2.6 | 3.7 | 3.7 | 3.3 | 3.1 | 5.2 | 2.1 |
| Algebra II, geometry, and trigonometry (2.00) | 2.7 | 2.4 | 1.6 | 2.5 | 3.3 | 2.3 | 3.3 | 1.2 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 0.4 | 1.1 | 0.4 | 0.6 | 1.4 | 0.5 | 0.5 | 0.4 |
| Science | | | | | | | | |
| Any science (1.00) | 0.3 | 0.9 | 0.6 | 0.3 | 0.2 | 0.3 | 0.1 | 0.3 |
| Biology (1.00) | 2.2 | 1.7 | 1.6 | 1.5 | 1.4 | 1.6 | 1.6 | 1.6 |
| AP/honors biology (1.00) | 0.5 | 1.0 | 1.2 | 0.4 | 2.3 | 1.0 | 0.8 | 1.3 |
| Chemistry (1.00) | 3.1 | 1.5 | 3.2 | 1.8 | 3.0 | 2.4 | 3.0 | 1.9 |
| AP/honors chemistry (1.00) | 0.8 | 0.5 | 1.1 | 0.5 | 0.8 | 1.2 | 0.9 | 0.8 |
| Physics (1.00) | 2.2 | 1.3 | 1.7 | 1.6 | 2.1 | 1.4 | 3.0 | 1.1 |
| AP/honors physics (1.00) | 0.3 | 0.7 | 0.7 | 0.3 | 1.6 | 0.5 | 0.7 | 0.5 |
| Engineering (1.00) | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| Astronomy (0.50) | 0.8 | 0.4 | 0.4 | 0.2 | 1.3 | 0.5 | 0.9 | 0.4 |
| Geology (0.50) | 2.8 | 2.6 | 3.3 | 3.6 | 3.5 | 3.5 | 3.5 | 4.4 |
| Biology and chemistry (2.00) | 3.1 | 1.8 | 3.2 | 1.9 | 3.0 | 2.4 | 3.0 | 1.9 |
| Biology, chemistry, and physics (3.00) | 1.9 | 1.5 | 1.4 | 1.2 | 2.0 | 1.3 | 2.2 | 1.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 25-9 Standard errors for estimated percentages in table 25-4

| Courses (credits) | 1982 |  | 1987 |  | 1990 |  |
|---|---|---|---|---|---|---|
|  | Public | Private | Public | Private | Public | Private |
| Mathematics |  |  |  |  |  |  |
| Any mathematics (1.00) | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 |
| Remedial/below grade math (1.00) | 0.7 | 3.4 | 1.2 | 1.8 | 1.7 | 1.3 |
| Algebra I (1.00) | 0.9 | 1.7 | 0.8 | 3.6 | 1.3 | 2.0 |
| Algebra II (0.50) | 0.8 | 3.8 | 2.1 | 5.0 | 1.5 | 3.3 |
| Geometry (1.00) | 0.8 | 3.2 | 1.0 | 2.1 | 1.4 | 2.0 |
| Trigonometry (0.50) | 0.5 | 3.8 | 1.5 | 4.0 | 1.4 | 3.9 |
| Analysis/pre-calculus (0.50) | 0.4 | 1.6 | 1.0 | 3.1 | 1.1 | 3.4 |
| Calculus (1.00) | 0.3 | 2.6 | 0.4 | 2.4 | 0.5 | 1.3 |
| AP calculus (1.00) | 0.3 | 1.4 | 0.4 | 1.4 | 0.5 | 1.4 |
| Algebra II and geometry (1.50) | 0.7 | 3.4 | 1.9 | 4.9 | 1.4 | 3.4 |
| Algebra II, geometry, and trigonometry (2.00) | 0.4 | 2.2 | 1.4 | 3.5 | 1.1 | 2.3 |
| Algebra II, geometry, trigonometry, and calculus (3.00) | 0.1 | 0.6 | 0.4 | 0.5 | 0.3 | 0.2 |
| Science |  |  |  |  |  |  |
| Any science (1.00) | 0.5 | 0.3 | 0.4 | 0.1 | 0.2 | 0.1 |
| Biology (1.00) | 0.9 | 1.8 | 1.0 | 1.2 | 1.0 | 0.5 |
| AP/honors biology (1.00) | 0.6 | 1.7 | 0.3 | 2.0 | 0.8 | 0.9 |
| Chemistry (1.00) | 0.6 | 3.3 | 1.1 | 3.2 | 1.4 | 2.7 |
| AP/honors chemistry (1.00) | 0.3 | 2.0 | 0.3 | 1.2 | 0.5 | 0.5 |
| Physics (1.00) | 0.6 | 2.4 | 1.0 | 2.2 | 0.9 | 2.2 |
| AP/honors physics (1.00) | 0.2 | 0.6 | 0.2 | 1.7 | 0.4 | 0.8 |
| Engineering (1.00) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| Astronomy (0.50) | 0.3 | 0.1 | 0.2 | 0.2 | 0.4 | 0.3 |
| Geology (0.50) | 1.1 | 2.1 | 2.2 | 4.1 | 2.7 | 4.1 |
| Biology and chemistry (2.00) | 0.6 | 3.6 | 1.2 | 3.2 | 1.4 | 2.6 |
| Biology, chemistry, and physics (3.00) | 0.5 | 1.8 | 0.8 | 2.3 | 0.7 | 2.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Note on mathematics and science course taking

The 1990 High School Transcript Study was conducted using the methodology and techniques nearly identical to those used in the 1987 High School Transcript Study. In the Spring of 1991, Westat Inc., a contractor of the U.S. Department of Education, collected transcripts from 21,607 students who graduated from high school in 1990. These students attended 330 schools that had previously been sampled for the National Assessment of Educational Progress (NAEP). The sample of schools was a nationally representative sample of schools teaching grade 12 or having 17-year-old students and the sample of students was a representative sample of graduating seniors from each school. Approximately three-fourths of the sample for the transcript study had participated in NAEP assessments in 1990.

Since the focus of the transcript study was high school graduates, schools with 17-year-olds but without 12th grade were not included. Also, only those students who graduated prior to 1990 were included. Students who graduated prior to 1990 and were taking "post graduate" courses were excluded as were those 12th grade students who failed to graduate in 1990.

Like the 1990 study, the sample of schools for the 1987 High School Transcript Study consisted of a nationally representative sample of 471 secondary schools selected for the 1986 NAEP for grade 11/age 17 students, of which 433 schools participated. The 1987 study was restricted to students who were in grade 11 in 1985-86.

The 1982 High School and Beyond study used a different method for identifying handicapped students than did the 1987 and 1990 transcripts studies, and in order to make the statistical studies as comparable as possible, all the counts and percentages in this indicator are restricted to students whose records indicate that they had not participated in a special education program.

(In 1990, students were classified as "handicapped" when the school provided Westat with a special form identifying them as having an Individualized Education Program (IEP). A small number of graduates with special education diplomas who did not have IEP's were included.) This restriction lowers the number of 1990 graduated to 21,023, or by approximately 3 percent.

Each course appearing on a student's transcript was assigned a six-digit code based on the course content and level(e.g. an on-grade English course receives a particular code and is distinguished from a remedial 10th grade English course). Course catalogues and other materials and information from the participating schools were used to determine the content and level of courses. The coding system employed was the Classification of Secondary School Courses (CSSC), containing approximately 1,800 course codes, with adaptions as necessary to distinguish levels of courses and to expand the vocational education course codes. Additional information coded for each course included grade and credit received; and student information included sex, grade level, age, graduation status, and race/ethnicity.

High School and Beyond (HS&B) was conducted for NCES by the National Opinion Research Council (NORC). In 1982, high school transcripts were collected for members of the sophomore cohort who were selected to be in the second followup survey (about 12,000 transcripts). As in the 1987 and 1990 High School Transcript Studies, records were obtained from all types of high schools. Information from the transcripts, including specific courses taken, and grades and credits earned, were coded according to the CSSC coding system and were processed into a system of data files designed to be merged with HS&B questionnaire and test data files. Unlike the 1987 High School Transcript Study, some information was not coded, such as the identification of a course as remedial, regular, or advanced, as offered in a different location, or designed for handicapped students.

SOURCE: United States Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 26-1 Percentage of high school graduates taking 4 units in English, 3 units in social studies, 3 units in science, 3 units in math, and 0.5 units in computer science*: 1982, 1987, and 1990, and change 1982–1987 and 1987–1990

| | 1982 | 1987 | 1990 | Percent point change | |
|---|---|---|---|---|---|
| | | | | 1982–1987 | 1987–1990 |
| **Total** | **2.7** | **16.3** | **22.7** | **13.6** | **6.4** |
| Sex | | | | | |
| Male | 3.3 | 18.4 | 23.9 | 15.1 | 5.5 |
| Female | 2.1 | 14.4 | 21.5 | 12.3 | 7.2 |
| Race/ethnicity | | | | | |
| White | 3.1 | 17.2 | 22.7 | 14.1 | 5.5 |
| Black | 1.0 | 11.7 | 25.1 | 10.7 | 13.3 |
| Hispanic | 0.9 | 8.6 | 20.3 | 7.7 | 11.7 |
| Asian | 7.1 | 28.1 | 27.7 | 21.0 | -0.4 |
| Urbanicity | | | | | |
| Big city | — | 13.2 | 22.9 | — | 9.7 |
| Urban fringe | — | 18.7 | 22.9 | — | 4.2 |
| Medium city | — | 13.7 | 21.6 | — | 7.9 |
| Small place | — | 16.6 | 22.7 | — | 6.1 |
| Control of school | | | | | |
| Public | 2.6 | 15.5 | 22.4 | 12.9 | 6.9 |
| Private | 3.3 | 23.5 | 25.2 | 20.2 | 1.7 |

— Not available.

*This course of studies was recommended by *A Nation at Risk* for all high school students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 26-2 Percentage of high school graduates taking 4 units in English, 3 units in science, 3 units in math, 0.5 units in computer science, and 2 units in foreign language*: 1982, 1987, and 1990, and change 1982–87 and 1987–90

| | 1982 | 1987 | 1990 | Percent point change | |
|---|---|---|---|---|---|
| | | | | 1982–87 | 1987–90 |
| **Total** | **1.9** | **12.0** | **17.3** | **10.2** | **5.2** |
| Sex | | | | | |
| Male | 2.0 | 13.3 | 17.7 | 11.2 | 4.4 |
| Female | 1.7 | 10.9 | 16.9 | 9.2 | 6.0 |
| Race/ethnicity | | | | | |
| White | 2.2 | 12.7 | 18.1 | 10.5 | 5.3 |
| Black | 0.7 | 8.3 | 14.3 | 7.6 | 6.0 |
| Hispanic | 0.5 | 5.5 | 15.7 | 5.0 | 10.2 |
| Asian | 6.0 | 24.3 | 23.7 | 18.3 | -0.6 |
| Urbanicity | | | | | |
| Big city | — | 10.9 | 19.0 | — | 8.1 |
| Urban fringe | — | 15.4 | 19.3 | — | 3.9 |
| Medium city | — | 10.6 | 18.2 | — | 7.6 |
| Small place | — | 10.7 | 15.5 | — | 4.8 |
| Control of school | | | | | |
| Public | 1.7 | 11.4 | 16.8 | 9.6 | 5.5 |
| Private | 2.8 | 18.3 | 21.6 | 15.4 | 3.4 |

— Not available.

*This course of studies was recommended by *A Nation at Risk* for high school students planning to attend college.

SOURCF: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 26-3 Standard errors for estimated percentages in text table for *Indicator 26*

| | 1982 | 1987 | 1990 | Percent point change | |
|---|---|---|---|---|---|
| | | | | 1982–87 | 1987–90 |
| **Total** | **0.5** | **1.2** | **1.7** | **1.3** | **2.1** |
| Sex | | | | | |
| Male | 0.9 | 1.4 | 1.9 | 1.7 | 2.3 |
| Female | 0.8 | 1.3 | 1.7 | 1.5 | 2.1 |
| Race/ethnicity | | | | | |
| White | 0.6 | 1.5 | 1.8 | 1.6 | 2.3 |
| Black | 1.6 | 3.0 | 3.8 | 3.4 | 4.9 |
| Hispanic | 0.7 | 2.2 | 2.7 | 2.3 | 3.4 |
| Asian | 2.3 | 4.4 | 3.0 | 4.9 | 5.3 |
| Urbanicity | | | | | |
| Big city | — | 2.4 | 4.9 | — | 5.5 |
| Urban fringe | — | 2.5 | 2.5 | — | 3.5 |
| Medium city | — | 2.5 | 3.6 | — | 4.4 |
| Small place | — | 1.8 | 2.6 | — | 3.2 |
| Control | | | | | |
| Public | 0.6 | 1.2 | 1.8 | 1.3 | 2.2 |
| Private | 1.1 | 4.6 | 3.5 | 4.7 | 5.8 |

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 26-4 Standard errors for estimated percentages in table 26-1

| | 1982 | 1987 | 1990 | Percent point change | |
|---|---|---|---|---|---|
| | | | | 1982–87 | 1987–90 |
| **Total** | **0.3** | **1.0** | **1.3** | **1.0** | **1.6** |
| Sex | | | | | |
| Male | 0.4 | 1.2 | 1.4 | 1.3 | 1.8 |
| Female | 0.2 | 0.9 | 1.4 | 0.9 | 1.6 |
| Race/ethnicity | | | | | |
| White | 0.4 | 1.3 | 1.5 | 1.3 | 2.0 |
| Black | 0.4 | 1.2 | 2.4 | 1.3 | 2.7 |
| Hispanic | 0.3 | 1.5 | 2.6 | 1.5 | 3.0 |
| Asian | 1.8 | 2.6 | 2.6 | 3.2 | 3.7 |
| Urbanicity | | | | | |
| Big city | — | 1.3 | 3.3 | — | 3.5 |
| Urban fringe | — | 1.9 | 2.6 | — | 3.2 |
| Medium city | — | 1.5 | 3.5 | — | 3.8 |
| Small place | — | 1.5 | 1.8 | — | 2.3 |
| Control | | | | | |
| Public | 0.3 | 0.8 | 1.4 | 0.9 | 1.6 |
| Private | 1.1 | 5.7 | 2.4 | 5.8 | 6.1 |

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 26-5 Standard errors for estimated percentages in table 26-2

|  | 1982 | 1987 | 1990 | Percent point change |  |
|---|---|---|---|---|---|
|  |  |  |  | 1982–87 | 1987–90 |
| **Total** | **0.2** | **0.9** | **1.1** | **0.9** | **1.4** |
| Sex |  |  |  |  |  |
| Male | 0.3 | 1.2 | 1.2 | 1.3 | 1.7 |
| Female | 0.2 | 0.7 | 1.2 | 0.8 | 1.4 |
| Race/ethnicity |  |  |  |  |  |
| White | 0.3 | 1.2 | 1.3 | 1.2 | 1.8 |
| Black | 0.3 | 1.2 | 1.7 | 1.3 | 2.1 |
| Hispanic | 0.1 | 0.9 | 1.9 | 0.9 | 2.1 |
| Asian | 1.5 | 2.8 | 2.2 | 3.2 | 3.5 |
| Urbanicity |  |  |  |  |  |
| Big city | — | 1.4 | 3.0 | — | 3.3 |
| Urban fringe | — | 1.7 | 2.1 | — | 2.7 |
| Medium city | — | 1.2 | 3.1 | — | 3.3 |
| Small place | — | 1.2 | 1.5 | — | 1.9 |
| Control |  |  |  |  |  |
| Public | 0.2 | 0.7 | 1.2 | 0.8 | 1.4 |
| Private | 0.9 | 4.7 | 2.2 | 4.7 | 5.1 |

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations*, 1993.

## Table 27-1 Number of Advanced Placement examinations taken by public school 11th and 12th graders per 1,000 public school 11th and 12th graders, and number of 11th and 12th grade public school students scoring 3 or above per 1,000 public school 11th and 12th graders, by subject area and by race/ethnicty: 1992

| Public school | Public school students | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of examinations | | | | | | Number scoring 3 or above | | | | | |
| | Social studies[1] | English[2] | Foreign language[3] | Calculus | Computer science | Science[4] | Social studies[1] | English[2] | Foreign language[3] | Calculus | Computer science | Science[4] |
| **Total** | **21** | **20** | **6** | **12** | **1** | **12** | **12** | **13** | **4** | **8** | **1** | **7** |
| Sex | | | | | | | | | | | | |
| Male | 20 | 15 | 4 | 14 | 2 | 13 | 13 | 10 | 3 | 10 | 1 | 9 |
| Female | 22 | 25 | 7 | 11 | 0 | 10 | 12 | 16 | 5 | 7 | 0 | 6 |
| Race/ethnicity | | | | | | | | | | | | |
| White | 22 | 21 | 4 | 12 | 1 | 11 | 13 | 15 | 3 | 8 | 1 | 7 |
| Black | 5 | 6 | 1 | 3 | 0 | 2 | 2 | 2 | 0 | 1 | 0 | 1 |
| Hispanic | 9 | 8 | 15 | 4 | 0 | 4 | 4 | 4 | 13 | 2 | 0 | 2 |
| Other[5] | 55 | 43 | 13 | 51 | 6 | 49 | 34 | 28 | 9 | 38 | 3 | 34 |

## Number of Advanced Placement examinations taken by private school 11th and 12th graders per 1,000 private school 11th and 12th graders, and number of 11th and 12th grade private school students scoring 3 or above per 1,000 private school 11th and 1th graders, by subject area and by race/ethnicity: 1992

| Private school | Private school students | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of examinations | | | | | | Number scoring 3 or above | | | | | |
| | Social studies[1] | English[2] | Foreign language[3] | Calculus | Computer science | Science[4] | Social studies[1] | English[2] | Foreign language[3] | Calculus | Computer science | Science[4] |
| **Total** | **73** | **64** | **28** | **41** | **3** | **38** | **48** | **48** | **21** | **28** | **2** | **26** |
| Sex | | | | | | | | | | | | |
| Male | 80 | 56 | 24 | 49 | 6 | 47 | 56 | 40 | 18 | 35 | 3 | 33 |
| Female | 66 | 72 | 32 | 33 | 1 | 29 | 41 | 55 | 24 | 22 | 0 | 19 |
| Race/ethnicity | | | | | | | | | | | | |
| White | 62 | 56 | 19 | 33 | 3 | 30 | 42 | 42 | 13 | 22 | 2 | 20 |
| Black | 33 | 29 | 14 | 16 | 1 | 15 | 17 | 16 | 9 | 10 | 1 | 8 |
| Hispanic | 65 | 52 | 93 | 28 | 2 | 22 | 35 | 34 | 84 | 16 | 1 | 12 |
| Other[5] | 197 | 159 | 77 | 182 | 16 | 179 | 134 | 117 | 54 | 134 | 9 | 134 |

[1] Social science includes separate examinations for American and European history, psychology, and since 1987, American and comparative government.

[2] English includes separate exams for literature and language. Both include elements of composition.

[3] Foreign language includes separate exams for French, German, Latin, and Spanish.

[4] Science includes separate examinations for biology, chemistry, and physics.

[5] Includes individuals who are not Hispanic, black, or white; most are Asian and a few are American Indian.

NOTE: Grades of 3 and above are usually accepted for college credit. See the supplemental note on Advanced Placement examinations for a description of AP scaling procedures. Since, on average, AP candidates take more than one examination (seeable 27-3), there is not a 1:1 correspondence between candidates and examinations.

SOURCE: The College Board, Advanced Placement Program, *National Summary reports, 1984–1992*, (Copyright© 1992 by College Entrance Examination Board, All rights reserved.); Educational Testing Service, unpublished tabulations; U.S.Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 27-2 Number of 11th and 12th grade students taking Advanced Placement examinations per 1,000 11th and 12th graders, by race/ethnicty and sex: 1984–1992

| | Total | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| **Total** | **24** | **29** | **33** | **36** | **39** | **44** | **48** | **53** | **57** |
| Sex | | | | | | | | | |
| Male | 24 | 29 | 33 | 35 | 38 | 42 | 46 | 51 | 53 |
| Female | 25 | 29 | 33 | 37 | 40 | 47 | 51 | 56 | 62 |
| Race/ethnicity | | | | | | | | | |
| White | 23 | 29 | 32 | 34 | 40 | 45 | 48 | 54 | 58 |
| Black | 4 | 5 | 6 | 8 | 9 | 11 | 13 | 15 | 14 |
| Hispanic | 10 | 14 | 14 | 17 | 22 | 31 | 32 | 32 | 37 |
| Other* | 56 | 64 | 80 | 79 | 104 | 108 | 133 | 142 | 149 |

| | Public school students | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| **Total** | **17** | **21** | **24** | **26** | **31** | **33** | **39** | **43** | **46** |
| Race/ethnicity | | | | | | | | | |
| White | 19 | 24 | 28 | 29 | 35 | 36 | 42 | 47 | 51 |
| Black | 3 | 4 | 5 | 7 | 8 | 9 | 11 | 13 | 13 |
| Hispanic | 20 | 10 | 11 | 13 | 17 | 22 | 26 | 26 | 31 |
| Other* | 48 | 53 | 66 | 68 | 89 | 91 | 114 | 123 | 127 |

| | Private school students | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| **Total** | **60** | **69** | **69** | **76** | **95** | **139** | **145** | **139** | **146** |
| Race/ethnicity | | | | | | | | | |
| White | 61 | 70 | 66 | 74 | 94 | 131 | 127 | 131 | 134 |
| Black | 24 | 27 | 42 | 29 | 31 | 102 | 220 | 58 | 77 |
| Hispanic | 45 | 54 | 61 | 90 | 99 | 227 | 301 | 157 | 188 |
| Other* | 108 | 210 | 301 | 186 | 262 | 245 | 345 | 598 | 473 |

*Includes individuals who are not Hispanic, black, or white; most are Asian and a few are American Indians.

SOURCE: The College Board, Advanced Placement Program, *National Summary reports, 1984–1982* (Copyright© 1992 by College Entrance Examination Board. All rights reserved.); U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

**Table 27-3** **The number of schools, candidates, examinations, colleges, candidates per school, examinations per candidate, and candidates per college participating in the Advanced Placement Program: 1956–91**

| Year | Schools | Candidates | Examinations | Colleges | Candidates per school | Exams per candidate | Candidates per college |
|---|---|---|---|---|---|---|---|
| 1956 | 104 | 1,229 | 2,199 | 130 | 11.8 | 1.8 | 9.5 |
| 1957 | 212 | 2,068 | 3,772 | 201 | 9.8 | 1.8 | 10.3 |
| 1958 | 355 | 3,715 | 6,800 | 279 | 10.5 | 1.8 | 13.3 |
| 1959 | 560 | 5,862 | 8,265 | 391 | 10.5 | 1.4 | 15.0 |
| 1960 | 890 | 10,531 | 14,153 | 567 | 11.8 | 1.3 | 18.6 |
| 1961 | 1,126 | 13,283 | 17,603 | 617 | 11.8 | 1.3 | 21.5 |
| 1962 | 1,358 | 16,255 | 21,451 | 683 | 12.0 | 1.3 | 23.8 |
| 1963 | 1,681 | 21,769 | 28,762 | 765 | 13.0 | 1.3 | 28.5 |
| 1964 | 2,086 | 28,874 | 37,829 | 888 | 13.8 | 1.3 | 32.5 |
| 1965 | 2,369 | 34,278 | 45,110 | 994 | 14.5 | 1.3 | 34.5 |
| 1966 | 2,518 | 38,178 | 50,104 | 1,076 | 15.2 | 1.3 | 35.5 |
| 1967 | 2,746 | 42,383 | 54,812 | 1,133 | 15.4 | 1.3 | 37.4 |
| 1968 | 2,863 | 46,917 | 60,674 | 1,193 | 16.4 | 1.3 | 39.3 |
| 1969 | 3,095 | 53,363 | 69,418 | 1,288 | 17.2 | 1.3 | 41.4 |
| 1970 | 3,186 | 55,442 | 71,495 | 1,368 | 17.4 | 1.3 | 40.5 |
| 1971 | 3,342 | 57,850 | 74,409 | 1,382 | 17.3 | 1.3 | 41.9 |
| 1972 | 3,397 | 58,828 | 75,199 | 1,483 | 17.3 | 1.3 | 39.7 |
| 1973 | 3,240 | 54,778 | 70,651 | 1,437 | 16.9 | 1.3 | 38.1 |
| 1974 | 3,357 | 60,863 | 79,036 | 1,507 | 18.1 | 1.3 | 40.4 |
| 1975 | 3,498 | 65,635 | 85,786 | 1,517 | 18.8 | 1.3 | 43.3 |
| 1976 | 3,937 | 75,651 | 98,898 | 1,580 | 19.2 | 1.3 | 47.9 |
| 1977 | 4,079 | 82,728 | 108,870 | 1,672 | 20.3 | 1.3 | 49.5 |
| 1978 | 4,323 | 93,313 | 122,561 | 1,735 | 21.6 | 1.3 | 53.8 |
| 1979 | 4,585 | 106,052 | 139,544 | 1,795 | 23.1 | 1.3 | 59.1 |
| 1980 | 4,950 | 119,918 | 160,214 | 1,868 | 24.2 | 1.3 | 64.2 |
| 1981 | 5,253 | 133,702 | 178,159 | 1,955 | 25.5 | 1.3 | 68.4 |
| 1982 | 5,525 | 141,626 | 188,933 | 1,976 | 25.6 | 1.3 | 71.7 |
| 1983 | 5,827 | 157,973 | 211,160 | 2,130 | 27.1 | 1.3 | 74.2 |
| 1984 | 6,273 | 177,406 | 239,666 | 2,153 | 28.3 | 1.4 | 82.4 |
| 1985 | 6,720 | 205,650 | 280,972 | 2,170 | 30.6 | 1.4 | 94.8 |
| 1986 | 7,201 | 231,378 | 319,224 | 2,125 | 32.1 | 1.4 | 108.9 |
| 1987 | 7,776 | 262,081 | 369,207 | 2,197 | 33.7 | 1.4 | 119.3 |
| 1988 | 8,247 | 292,164 | 424,844 | 2,184 | 35.4 | 1.5 | 133.8 |
| 1989 | 8,768 | 314,686 | 463,664 | 2,256 | 35.9 | 1.5 | 139.5 |
| 1990 | 9,292 | 330,080 | 490,299 | 2,537 | 35.5 | 1.5 | 130.1 |
| 1991 | 9,786 | 359,122 | 535,191 | 2,587 | 36.7 | 1.5 | 138.8 |

SOURCE: The College Board, Advanced Placement Program, *AP Yearbook*, 1956–91 (Copyright© 1992 by College Entrance Examination Board. All rights reserved.).

## Note on Advanced Placement examinations

The Advanced Placement (AP) Examinations are offered annually to give high school students opportunities to demonstrate college-level achievement. Although students who have not studied extensively beyond the normal secondary school level are not advised to take these examinations, the Advanced Placement examination is open to all students. Most students who take the examinations self-select, however several states have legislation that supports and encourages AP participation.

In this indicator, the number of 11th and 12th grade AP examinations and examinees were compared to eleventh and twelfth grade students, as defined by the October Supplement to the Current Population Survey (CPS). Data from the CPS includes both public and private schools. This methodology differs somewhat from that reported in *The National Education Goals Report, 1992* which calculated enrollment figures based on the Common Core of Data (CCD). In addition, the *Goals Report* calculated private school enrollment differently. The CCD does not include data from private schools. Consequently, to produce private school enrollment data, the public school figures in the *Goals Report* were multiplied by a private school enrollment adjustment factor. As a result, data from this indicator are not directly comparable to those found in the *Goals Report*.

Most of the examinations contain multiple choice and free-response sections (see below), and grade data are based on scores from both type of responses. The program's examinations are criterion- not normed-referenced, with cut scores established at four different points along these scales to designate a grade of 5,4,3,2, or 1 (5-extremely well qualified; 4-well qualified; 3-qualified; 2-possibly qualified; 1-no recommendation). The grades are set by the chief readers who rely on their subject-matter expertise, statistical equating data, and data from comparability studies. Cut scores frequently vary from year to year for each examination, reflecting changes in level of exam difficulty, and they also differ across exams. Therefore, the College Board does not recommend the use of grade data for trend analysis. Grades of 3 and above are usually accepted for college credit and advanced placement at participating colleges and universities, although this varies among institutions. Descriptions of the examinations for these various subject areas are provided below.

**Biology**: A 3-hour examination on a college full-year introduction to biology majors: 90 minutes of multiple choice questions; 90 minutes of four required essays.

**Chemistry**: A 3-hour examination on a college full-year introduction to chemistry: 90 minutes of multiple choice questions; 90 minutes of selected problems, short essays, and chemical reactions.

**Computer Science**: Two examinations: Computer Science A (75 minutes of multiple choice questions, 105 minutes of free response) on a college first-semester introduction to Computer Science (programming, methodology, programming in Pascal including recursion, data structures not including pointers, applications); Computer Science AB (75 minutes of multiple choice questions, 105 minutes of free response) on a college full-year introduction to Computer Science (programming methodology, programming in Pascal, algorithms, data structures). The Computer Science AB Examination will no longer include a separate grade report for the Computer Science A Examination.

**English**: Two 180-minute examinations, English Language and Composition, and English Literature and Composition. Each examination covers a full-year introductory college English course. Both are 60 minutes of multiple-choice questions and 120 minutes of free response. (Candidates may take either or both examinations.)

**French**: Two examinations, one on each of two college third-year courses: French Language (80-95 minutes of multiple-choice questions on listening and reading; 55-70 minutes of free-response writing and speaking), and French Literature (80-95 minutes of multiple-choice questions on literary passages; 35-50 minutes on one or more required works; and a 35-50 minute analysis of a presented text from the required reading list.) (Candidates may take either or both examinations.)

**German**: A 3-hour examination on a college third-year German Language course: 110 minutes of multiple choice questions on listening and reading; 70 minutes of free-response writing and speaking.

**Government and Politics**: Two 120-minute examinations (45 minutes of multiple-choice, 75 minutes of free-response) on each of two single-semester introductory college courses on government and politics: Comparative and United States. (Candidates may take either or both examinations.)

**History, European**: A 3-hour examination on a college full-year introduction to European history in its global context from c. 1450 through 1970. 60-90 minutes of multiple-choice questions, a 15-minute reading period, a 30-50 minute exercise on the use of historical evidence, and one 40-60 minute essay chosen from several offered.

**History, United States**: A 3-hour examination on a college full-year introduction to United States history from colonial times to the present; 60-90 minutes of multiple choice questions, a 15-minute reading period, a 30-50 minute exercise on the use of historical evidence, and a 40-60 minute selected essay.

**Latin**: Two 2-hour examinations on college middle-level Latin courses (Virgil and Catullus-Horace): each has 40-55 minutes of multiple-choice questions on Latin sight reading (common to both examinations) and 65-80 minutes of brief essays on required reading. (Candidates may take either or both examinations.)

**Mathematics**: Two 3-hour examinations, one on each of two college full-year mathematics courses: Calculus AB (introductory differential and integral calculus) and calculus BC (extending one semester beyond AB and including advanced topics in integral calculus and sequences and series). Each examination has a 90-minute multiple-choice section and a 90-minute free-response section. A scientific, non-programmable, non-graphing calculator is required for each examination. Candidates may take only one examination.

**Physics**: Three examinations: Physics B, a 3-hour examination (half multiple-choice, half free-response) covering a college full-year, non-calculus course on general physics; Physics C (Mechanics) and Physics C (Electricity and Magnetism), two 90-minute examinations (half multiple-choice, half free-response) on each of two college semesters of introductory physics with calculus. (Candidates may take either Physics B or C, not both.)

**Psychology**: A 2-hour examination on a college one-semester introduction to psychology: 75 minutes of multiple-choice questions and a 45-minute free-response section consisting of two mandatory questions.

**Spanish**: Two examinations, one on each of two college third-year Spanish courses: Spanish Language (90 minutes of multiple-choice questions on listening comprehension, vocabulary, structure, and reading comprehension; 75-85 minutes of free-response writing and speaking), and Spanish literature (80 minutes of multiple-choice questions on listening comprehension, reading comprehension, and literary analysis; 100 minutes of free-response essays on required authors and poetry analysis. (Candidates may take either or both examinations.)

SOURCE: The College Board, *A Guide to the Advanced Placement Program*, 1992.

## Table 28-1 Percentage of 1985–86 bachelor's recipients taking one or more courses in different subjects, by field of major

| Subject | Major | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | Humanities | Social/ behavioral sciences | Natural sciences | Computer sciences | Engineering | Education | Business and management | Other[2] |
| **Number of students** | **909,368** | **87,379** | **117,994** | **76,120** | **48,199** | **85,150** | **81,077** | **232,083** | **169,971** |
| Humanities | 94.8 | 99.7 | 97.7 | 97.6 | 93.0 | 90.7 | 96.8 | 93.2 | 92.8 |
| Arts | 63.1 | 86.2 | 69.6 | 68.9 | 54.1 | 36.8 | 78.3 | 56.1 | 61.6 |
| English literature/ letters | 86.8 | 91.5 | 87.4 | 86.9 | 85.0 | 83.9 | 90.1 | 86.2 | 84.9 |
| Foreign language | 36.1 | 56.1 | 56.5 | 52.8 | 31.5 | 15.9 | 28.3 | 26.0 | 32.9 |
| Philosophy and religion | 52.6 | 69.0 | 65.6 | 58.2 | 50.4 | 35.3 | 44.1 | 50.3 | 48.9 |
| Area and ethnic studies | 9.0 | 16.1 | 17.2 | 7.3 | 5.5 | 4.6 | 5.9 | 5.6 | 9.4 |
| Social/behavioral sciences | 95.1 | 93.3 | 99.8 | 95.6 | 90.7 | 91.6 | 94.4 | 96.5 | 93.7 |
| Psychology | 65.3 | 62.1 | 74.2 | 66.1 | 54.8 | 46.5 | 75.9 | 64.1 | 69.4 |
| Social sciences | 92.5 | 89.2 | 98.1 | 92.4 | 89.1 | 88.8 | 91.2 | 94.6 | 90.5 |
| Economics | 52.8 | 24.7 | 50.4 | 33.2 | 63.1 | 56.5 | 23.5 | 88.4 | 39.2 |
| Geography | 14.2 | 10.8 | 17.9 | 15.8 | 10.7 | 8.9 | 26.6 | 12.9 | 12.3 |
| Political science | 40.6 | 40.1 | 58.4 | 31.5 | 31.6 | 25.7 | 43.6 | 40.7 | 40.6 |
| Sociology/ anthropology | 61.0 | 59.5 | 78.1 | 59.9 | 49.6 | 35.4 | 65.8 | 58.0 | 67.8 |
| History | 63.2 | 69.4 | 74.4 | 64.9 | 57.3 | 47.3 | 73.5 | 61.9 | 58.1 |
| Social science, other | 15.6 | 13.4 | 25.1 | 10.8 | 13.0 | 14.8 | 15.0 | 13.2 | 16.0 |
| Natural sciences | 91.7 | 81.3 | 92.4 | 99.7 | 95.8 | 98.0 | 92.5 | 91.0 | 89.4 |
| Life sciences | 52.9 | 52.3 | 56.9 | 77.2 | 36.5 | 19.4 | 69.7 | 41.8 | 68.1 |
| Physical sciences | 66.9 | 54.7 | 66.4 | 94.1 | 65.4 | 92.9 | 67.4 | 53.0 | 68.0 |
| Mathematics | 78.1 | 54.7 | 72.0 | 92.9 | 93.7 | 94.2 | 77.3 | 85.7 | 66.0 |
| Calculus | 37.7 | 15.8 | 28.1 | 76.5 | 68.1 | 76.8 | 10.9 | 41.7 | 18.9 |
| Other mathematics | 70.2 | 46.5 | 60.9 | 72.7 | 90.3 | 88.3 | 75.0 | 78.3 | 60.2 |
| Computer science and engineering | 50.7 | 26.9 | 34.0 | 58.9 | 96.4 | 98.8 | 29.2 | 59.4 | 33.1 |
| Computer science | 42.1 | 22.1 | 31.6 | 52.7 | 94.5 | 49.4 | 23.0 | 55.7 | 27.8 |
| Engineering | 17.7 | 5.8 | 5.1 | 15.6 | 26.4 | 98.4 | 8.5 | 8.1 | 8.7 |
| Technical/professional | 89.3 | 72.0 | 84.2 | 70.5 | 85.1 | 76.6 | 99.9 | 99.8 | 98.8 |
| Education | 36.3 | 32.7 | 35.1 | 31.3 | 24.1 | 17.7 | 98.7 | 25.7 | 37.9 |
| Business and management | 53.7 | 28.0 | 43.1 | 24.7 | 69.8 | 36.2 | 21.1 | 99.2 | 45.4 |
| Other technical/ professional | 68.2 | 53.3 | 61.4 | 49.2 | 51.2 | 64.2 | 69.9 | 66.9 | 97.2 |

[1] Total includes those for whom field of study was unknown.

[2] Agriculture and agricultural sciences; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 28-2 Average credit hours earned in different subjects by 1985–86 bachelor's degree recipients, by subject and field of major

| Subject | Major | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | Humanities | Social/behavioral sciences | Natural sciences | Computer sciences | Engineering | Education | Business and management | Other[2] |
| **Number of students** | **909,368** | **87,379** | **117,994** | **76,120** | **48,199** | **85,150** | **81,077** | **232,083** | **169,971** |
| **Total average credit hours[3]** | **121.8** | **114.6** | **112.7** | **125.7** | **124.4** | **136.9** | **128.3** | **118.1** | **124.8** |
| Humanities | 25.4 | 71.7 | 26.8 | 21.7 | 19.1 | 11.6 | 24.8 | 17.3 | 22.0 |
| Arts | 6.5 | 25.8 | 5.0 | 4.1 | 3.6 | 2.0 | 8.4 | 3.0 | 5.5 |
| English literature/letters | 10.2 | 21.4 | 9.6 | 8.2 | 9.0 | 6.5 | 10.9 | 8.7 | 9.7 |
| Foreign language | 3.7 | 9.7 | 6.1 | 5.1 | 2.6 | 1.1 | 2.4 | 2.0 | 2.9 |
| Philosophy and religion | 4.5 | 13.9 | 5.2 | 3.9 | 3.6 | 1.7 | 2.8 | 3.4 | 3.3 |
| Area and ethnic studies | 0.5 | 1.0 | 0.9 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 |
| Social/behavioral sciences | 23.2 | 16.5 | 53.1 | 15.8 | 15.6 | 11.3 | 19.7 | 22.1 | 20.2 |
| Psychology | 5.5 | 3.6 | 15.6 | 4.1 | 2.9 | 2.1 | 5.7 | 3.3 | 5.3 |
| Social sciences | 17.7 | 12.9 | 37.5 | 11.7 | 12.7 | 9.2 | 14.0 | 18.8 | 15.0 |
| Economics | 4.5 | 1.3 | 6.9 | 1.8 | 4.2 | 2.7 | 1.1 | 9.1 | 2.3 |
| Geography | 0.7 | 0.5 | 1.6 | 0.9 | 0.5 | 0.4 | 1.2 | 0.5 | 0.5 |
| Political science | 2.9 | 2.1 | 8.9 | 1.4 | 1.4 | 1.1 | 2.1 | 2.0 | 2.7 |
| Sociology/anthropology | 4.4 | 3.7 | 9.9 | 3.3 | 2.7 | 1.7 | 3.8 | 3.1 | 5.2 |
| History | 4.4 | 4.7 | 9.0 | 3.8 | 3.3 | 2.4 | 5.2 | 3.6 | 3.5 |
| Social science, other | 0.8 | 0.7 | 1.3 | 0.6 | 0.6 | 1.0 | 0.8 | 0.6 | 0.9 |
| Natural sciences | 21.9 | 8.9 | 13.8 | 69.8 | 26.7 | 36.2 | 16.4 | 13.0 | 19.5 |
| Life sciences | 5.5 | 2.7 | 3.8 | 22.6 | 2.2 | 1.2 | 5.4 | 2.1 | 8.3 |
| Physical sciences | 8.2 | 3.2 | 5.2 | 30.7 | 6.5 | 18.6 | 5.0 | 3.1 | 6.8 |
| Mathematics | 8.2 | 3.1 | 4.9 | 16.5 | 18.1 | 16.4 | 6.0 | 7.8 | 4.4 |
| Calculus | 2.9 | 0.8 | 1.5 | 7.1 | 6.8 | 8.9 | 0.8 | 2.1 | 1.2 |
| Other mathematics | 5.3 | 2.3 | 3.4 | 9.3 | 11.3 | 7.5 | 5.2 | 5.6 | 3.3 |
| Computer science and engineering | 10.3 | 1.2 | 1.6 | 5.5 | 37.2 | 63.2 | 1.7 | 4.0 | 2.0 |
| Computer science | 3.8 | 0.9 | 1.3 | 3.9 | 33.9 | 2.8 | 0.9 | 3.5 | 1.1 |
| Engineering | 6.4 | 0.3 | 0.3 | 1.6 | 3.3 | 60.5 | 0.8 | 0.5 | 0.9 |
| Technical/professional | 36.0 | 11.9 | 12.9 | 8.4 | 21.2 | 10.3 | 55.9 | 57.6 | 56.1 |
| Education | 5.9 | 3.3 | 2.3 | 2.6 | 1.0 | 0.7 | 45.0 | 1.2 | 2.9 |
| Business and mangement | 16.3 | 2.3 | 4.9 | 2.3 | 16.0 | 2.8 | 1.9 | 50.7 | 5.1 |
| Other technical/professional | 13.9 | 6.3 | 5.8 | 3.5 | 4.2 | 6.9 | 9.1 | 5.7 | 48.1 |

[1] Total column includes those for whom field of study was unknown.

[2] Agriculture and agricultural sciences; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

[3] Total average credits includes credits in basic skills and uncodable courses which are not shown here.

NOTE: Average credit hours in a subject are computed for all students, both those who took courses in the subject and those who did not. This table includes credits accepted or granted by te degree-granding institutions (includes transferred credits). Credit hours are standardized to the semester system.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 28-3 Standard errors for estimated percentages in table 28-1

| Subject | Major | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | Humanities | Social/ behavioral sciences | Natural sciences | Computer sciences | Engineering | Education | Business and management | Other[2] |
| Humanities | 0.4 | 0.2 | 0.4 | 0.5 | 1.4 | 1.6 | 0.6 | 0.9 | 0.7 |
| Arts | 1.2 | 2.0 | 1.9 | 1.7 | 2.8 | 2.8 | 1.4 | 1.8 | 1.5 |
| English literature/ letters | 0.7 | 1.2 | 1.3 | 1.7 | 1.6 | 2.2 | 1.1 | 1.2 | 1.1 |
| Foreign language | 1.1 | 4.7 | 2.0 | 2.2 | 2.4 | 1.5 | 1.5 | 1.5 | 1.5 |
| Philosophy and religion | 1.3 | 3.7 | 1.8 | 2.1 | 2.8 | 2.5 | 2.2 | 1.9 | 1.8 |
| Area and ethnic studies | 0.8 | 2.4 | 1.5 | 0.9 | 0.8 | 0.9 | 0.9 | 0.8 | 1.3 |
| Social/behavioral sciences | 0.3 | 1.3 | 0.1 | 0.6 | 1.4 | 1.1 | 0.8 | 0.6 | 0.7 |
| Psychology | 0.9 | 1.6 | 1.6 | 1.6 | 2.2 | 3.0 | 1.5 | 1.6 | 1.4 |
| Social sciences | 0.6 | 2.7 | 0.4 | 0.8 | 1.5 | 1.3 | 1.0 | 1.2 | 0.9 |
| Economics | 1.1 | 3.1 | 1.8 | 1.6 | 2.5 | 3.5 | 1.3 | 1.5 | 1.6 |
| Geography | 0.6 | 1.4 | 1.2 | 1.2 | 1.3 | 1.3 | 1.8 | 1.0 | 1.0 |
| Political science | 1.1 | 2.0 | 1.8 | 1.8 | 2.1 | 3.1 | 2.4 | 1.8 | 1.5 |
| Sociology/ anthropology | 0.9 | 2.0 | 1.4 | 1.7 | 2.2 | 2.1 | 1.8 | 1.5 | 1.4 |
| History | 1.0 | 1.6 | 1.7 | 1.9 | 2.6 | 3.4 | 1.6 | 1.7 | 1.5 |
| Social science, other | 1.1 | 2.0 | 1.8 | 1.1 | 2.1 | 3.7 | 2.1 | 1.5 | 1.5 |
| Natural sciences | 0.6 | 2.2 | 0.9 | 0.2 | 1.2 | 0.6 | 0.9 | 1.2 | 1.0 |
| Life sciences | 1.0 | 1.7 | 1.8 | 1.4 | 2.0 | 1.8 | 1.5 | 1.7 | 1.6 |
| Physical sciences | 1.2 | 3.0 | 1.8 | 0.8 | 3.1 | 1.1 | 1.8 | 1.9 | 1.5 |
| Mathematics | 1.0 | 2.0 | 1.7 | 1.0 | 1.5 | 1.0 | 1.5 | 1.4 | 1.5 |
| Calculus | 1.3 | 2.3 | 1.8 | 1.7 | 3.1 | 2.5 | 0.8 | 2.2 | 1.4 |
| Other mathematics | 1.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 | 1.6 |
| Computer science and engineering | 1.2 | 1.8 | 1.7 | 1.8 | 1.1 | 0.3 | 1.8 | 2.0 | 1.5 |
| Computer science | 1.1 | 1.6 | 1.7 | 1.8 | 1.3 | 3.4 | 1.7 | 2.0 | 1.5 |
| Engineering | 1.0 | 1.4 | 0.7 | 1.2 | 2.1 | 0.4 | 0.9 | 0.9 | 0.8 |
| Technical/professional | 0.7 | 3.0 | 1.5 | 2.0 | 1.5 | 2.4 | 0.1 | 0.1 | 0.2 |
| Education | 1.2 | 4.0 | 1.9 | 1.9 | 2.2 | 2.3 | 0.3 | 1.6 | 1.4 |
| Business and management | 1.0 | 1.8 | 1.7 | 1.4 | 2.4 | 3.8 | 1.2 | 0.3 | 1.5 |
| Other technical/ professional | 1.1 | 2.8 | 2.0 | 2.4 | 2.4 | 3.1 | 1.9 | 1.8 | 0.4 |

[1] Total includes those for whom field of study was unknown.

[2] Agriculture and agricultural sciences; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 28-4 Standard errors for estimated average credit hours in table 28-2

| Subject | Major | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | Humanities | Social/ behavioral sciences | Natural sciences | Computer sciences | Engineering | Education | Business and management | Other[2] |
| **Total average credit hours[3]** | **1.7** | **2.6** | **2.7** | **2.5** | **2.7** | **3.5** | **2.2** | **2.2** | **2.3** |
| Humanities | 0.8 | 2.3 | 0.8 | 0.6 | 0.8 | 0.7 | 0.8 | 0.5 | 0.6 |
| Arts | 0.2 | 2.8 | 0.2 | 0.2 | 0.3 | 0.2 | 0.5 | 0.1 | 0.3 |
| English literature/ letters | 0.2 | 1.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 |
| Foreign language | 0.1 | 1.1 | 0.3 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 |
| Philosophy and religion | 0.7 | 6.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Area and ethnic studies | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| Social/behavioral sciences | 0.5 | 0.9 | 1.3 | 0.4 | 0.5 | 0.4 | 0.6 | 0.6 | 0.6 |
| Psychology | 0.2 | 0.2 | 0.7 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 |
| Social sciences | 0.4 | 0.8 | 1.1 | 0.3 | 0.5 | 0.4 | 0.5 | 0.5 | 0.5 |
| Economics | 0.1 | 0.2 | 0.4 | 0.1 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 |
| Geography | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Political science | 0.1 | 0.1 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| Sociology/ anthropology | 0.2 | 0.3 | 0.7 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 |
| History | 0.1 | 0.2 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| Social science, other | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 0.1 |
| Natural sciences | 0.6 | 0.6 | 0.5 | 1.6 | 1.1 | 1.7 | 0.5 | 0.4 | 0.7 |
| Life sciences | 0.2 | 0.1 | 0.2 | 1.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 |
| Physical sciences | 0.3 | 0.3 | 0.3 | 0.9 | 0.4 | 1.3 | 0.2 | 0.1 | 0.3 |
| Mathematics | 0.2 | 0.2 | 0.2 | 0.6 | 0.7 | 0.6 | 0.3 | 0.3 | 0.2 |
| Calculus | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.5 | 0.1 | 0.1 | 0.1 |
| Other mathematics | 0.2 | 0.2 | 0.1 | 0.5 | 0.5 | 0.4 | 0.2 | 0.2 | 0.1 |
| Computer science and engineering | 0.5 | 0.1 | 0.1 | 0.4 | 1.2 | 1.8 | 0.1 | 0.2 | 0.2 |
| Computer science | 0.2 | 0.1 | 0.1 | 0.3 | 1.2 | 0.2 | 0.1 | 0.2 | 0.1 |
| Engineering | 0.5 | 0.0 | 0.0 | 0.3 | 0.4 | 1.7 | 0.1 | 0.1 | 0.2 |
| Technical/professional | 0.8 | 1.0 | 0.6 | 0.4 | 1.9 | 1.0 | 0.9 | 1.2 | 1.0 |
| Education | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.9 | 0.1 | 0.2 |
| Business | 0.5 | 0.3 | 0.3 | 0.2 | 1.6 | 0.4 | 0.2 | 1.0 | 0.3 |
| Other technical/ professional | 0.5 | 0.6 | 0.4 | 0.3 | 0.8 | 0.8 | 0.5 | 0.3 | 1.0 |

[1] Total column includes those for whom field of study was unknown.

[2] Agriculture and agricultural sciences; architecture; communications; health sciences; home economics; law; library science; military science; parks and recreation; protective services; and public affairs.

[3] Total average credits includes credits in basic skills and uncodable courses which are not shown here.

NOTE: Average credit hours in a subject are computed for all students, both those who took courses and those who did not. This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses). Credit hours are standardized to the semester system.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 29-1 Percentage distribution of associate degrees conferred, by field of study: Academic years ending 1983–1990

| Field of study | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|
| **Number** | **456,441** | **452,416** | **454,712** | **446,047** | **437,137** | **435,085** | **436,764** | **454,679** |
| **Total percent** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Arts and sciences | 28.4 | 27.7 | 27.1 | 28.1 | 28.8 | 30.3 | 31.5 | 32.8 |
| Liberal/general studies | 24.0 | 23.9 | 23.4 | 24.1 | 24.8 | 26.0 | 27.1 | 28.3 |
| Other arts and sciences[1] | 4.3 | 3.8 | 3.7 | 3.9 | 4.1 | 4.3 | 4.4 | 4.5 |
| Technical/professional | 71.6 | 72.3 | 72.3 | 71.7 | 71.2 | 69.6 | 67.4 | 65.9 |
| Business | 26.2 | 26.4 | 26.4 | 26.1 | 26.2 | 25.3 | 24.5 | 23.4 |
| Business and management | 11.3 | 11.1 | 10.8 | 10.7 | 11.3 | 11.7 | 11.4 | 11.3 |
| Business administrative support | 11.4 | 11.9 | 12.1 | 11.7 | 11.0 | 10.1 | 9.7 | 9.0 |
| Business data processing | 3.6 | 4.1 | 4.1 | 3.6 | 3.0 | 2.4 | 2.2 | 1.9 |
| Secretarial and related programs | 4.6 | 4.7 | 4.8 | 4.7 | 4.6 | 4.3 | 4.1 | 3.1 |
| Business and office, other | 3.3 | 3.1 | 3.2 | 3.4 | 3.4 | 3.5 | 3.4 | 4.0 |
| Marketing and distribution | 3.4 | 3.4 | 3.4 | 3.7 | 3.9 | 3.5 | 3.3 | 3.1 |
| Health sciences | 14.6 | 15.1 | 15.1 | 14.9 | 14.3 | 13.7 | 13.6 | 14.1 |
| Nursing, general | 8.2 | 8.9 | 8.9 | 8.7 | 8.6 | 8.4 | 8.2 | 8.7 |
| Other health | 6.4 | 6.2 | 6.2 | 6.3 | 5.7 | 5.4 | 5.4 | 5.4 |
| Practical nursing | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| Medical technicians | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 |
| Health assistants | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.2 | 1.2 | 1.1 |
| Health sciences, other | 3.8 | 3.7 | 3.8 | 4.0 | 3.6 | 3.5 | 3.6 | 3.7 |
| Technological | 13.7 | 14.4 | 14.7 | 13.9 | 13.6 | 13.6 | 12.8 | 11.7 |
| Computer and information sciences | 2.2 | 2.8 | 2.8 | 2.4 | 2.1 | 2.0 | 1.8 | 1.7 |
| Engineering | 0.8 | 1.0 | 0.9 | 1.2 | 1.0 | 0.9 | 0.6 | 0.5 |
| Engineering technologies | 10.4 | 10.2 | 10.8 | 10.1 | 10.3 | 10.6 | 10.1 | 9.3 |
| Science technologies | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Trade and industrial | 4.8 | 4.9 | 4.7 | 5.3 | 5.4 | 5.3 | 4.7 | 4.7 |
| Construction trades | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 |
| Mechanics and repairers | 2.0 | 2.0 | 1.9 | 2.5 | 2.5 | 2.4 | 1.8 | 1.7 |
| Precision production | 1.9 | 2.0 | 1.9 | 2.0 | 2.1 | 2.2 | 2.1 | 2.1 |
| Transportation and material moving | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.6 |
| Community services | 5.4 | 5.1 | 5.0 | 5.1 | 5.1 | 5.1 | 5.1 | 5.3 |
| Education | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 |
| Protective services | 2.9 | 2.6 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 |
| Other community services[2] | 0.9 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Other technical/professional | 7.0 | 6.5 | 6.5 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 |
| Agriculture | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 | 1.2 | 1.1 | 1.1 |
| Home economics | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | 2.2 | 2.4 | 2.2 |
| Visual and performing arts | 1.4 | 1.2 | 1.1 | 1.1 | 1.2 | 1.0 | 0.9 | 1.0 |
| Other technical/professional[3] | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2.1 | 2.4 | 2.4 |
| Undistributed | 0.0 | 0.0 | 0.6 | 0.2 | 0.0 | 0.1 | 1.1 | 1.2 |

[1] Area and ethnic studies; foreign languages; letters; life sciences; mathematics; multi/interdisciplinary studies; philosophy and religion; theology; physical sciences; psychology; and social sciences.

[2] Library science; parks and recreation; and public affairs/social services.

[3] Architecture and environmental design; communications; consumer and personal services; law; and military sciences.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, (1992 edition, tables 232 and 233; 1991 edition, table 232; 1990 edition, table 222; 1989 edition, table 202), based on IPEDS/HEGIS surveys of degrees conferred.

## Table 29-2 Percentage distribution of associate degrees conferred, by field of study and sex: Academic year ending 1990

| Field of study | Men | Women |
|---|---|---|
| **Number** | **191,072** | **263,607** |
| **Total percent** | **100.0** | **100.0** |
| Arts and sciences | 32.5 | 33.0 |
| Liberal/general studies | 27.7 | 28.7 |
| Other arts and sciences[1] | 4.8 | 4.3 |
| Technical/professional | 65.9 | 65.9 |
| Business | 16.9 | 28.0 |
| Business and management | 11.0 | 11.5 |
| Business administrative support | 4.3 | 12.5 |
| Business data processing | 1.9 | 1.8 |
| Secretarial and related programs | 0.1 | 5.3 |
| Business and office, other | 2.3 | 5.3 |
| Marketing and distribution | 1.7 | 4.1 |
| Health sciences | 4.2 | 21.3 |
| Nursing, general | 1.7 | 13.8 |
| Other health | 2.5 | 7.5 |
| Practical nursing | 0.0 | 0.2 |
| Medical technicians | 0.3 | 0.5 |
| Health assistants | 0.1 | 1.9 |
| Health sciences, other | 2.0 | 4.9 |
| Technological | 23.3 | 3.3 |
| Computer and information sciences | 2.0 | 1.4 |
| Engineering | 1.1 | 0.1 |
| Engineering technologies | 19.9 | 1.7 |
| Science technologies | 0.3 | 0.1 |
| Trade and industrial | 9.0 | 1.6 |
| Construction trades | 0.9 | 0.0 |
| Mechanics and repairers | 3.8 | 0.1 |
| Precision production | 3.2 | 1.2 |
| Transportation and material moving | 1.2 | 0.1 |
| Community services | 6.6 | 4.3 |
| Education | 1.2 | 2.2 |
| Protective services | 4.9 | 1.3 |
| Other community services[2] | 0.4 | 0.9 |
| Other technical/professional | 6.0 | 7.3 |
| Agriculture | 1.7 | 0.6 |
| Home economics | 1.4 | 2.8 |
| Visual and performing arts | 1.0 | 1.0 |
| Other technical/professional[3] | 1.8 | 2.9 |
| Undistributed | 1.5 | 1.1 |

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[1] Area and ethnic studies; foreign languages; letters; life sciences; mathematics; multi/interdisciplinary studies; philosophy and religion; theology; physical science psychology; and social sciences.

[2] Library science; parks and recreation; and public affairs/social services.

[3] Architecture and environmental design; communications; consumer and personal services; law; and military sciences.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992, table 232 (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 30-1 Rates of labor force participation, employment, and unemployment of recent high school graduates, by sex: 1960–91

| Year | Both sexes |  |  | Male |  |  | Female |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1960 | 76.7 | 65.0 | 15.2 | 88.5 | 75.3 | 14.9 | 69.5 | 58.8 | 15.3 |
| 1961 | 79.7 | 65.4 | 17.9 | 86.1 | 70.1 | 18.5 | 75.8 | 62.5 | 17.6 |
| 1962 | 79.5 | 68.3 | 14.1 | 90.8 | 77.8 | 14.3 | 71.4 | 61.5 | 13.8 |
| 1963 | 78.9 | 64.7 | 18.0 | 89.7 | 72.6 | 19.1 | 71.8 | 59.5 | 17.1 |
| 1964 | 77.9 | 63.4 | 18.7 | 90.9 | 79.2 | 12.9 | 69.8 | 53.5 | 23.4 |
| 1965 | 82.1 | 71.9 | 12.4 | 91.0 | 84.3 | 7.4 | 75.8 | 63.2 | 16.6 |
| 1966 | 75.7 | 64.9 | 14.2 | 87.3 | 79.7 | 8.7 | 68.4 | 55.8 | 18.5 |
| 1967 | 78.7 | 65.9 | 16.2 | 86.6 | 78.3 | 9.5 | 73.5 | 57.7 | 21.4 |
| 1968 | 77.8 | 67.3 | 13.5 | 88.1 | 79.1 | 10.2 | 71.6 | 60.2 | 16.0 |
| 1969 | 79.1 | 70.1 | 11.4 | 90.0 | 83.1 | 7.6 | 71.6 | 61.1 | 14.7 |
| 1970 | 77.2 | 63.2 | 18.1 | 87.4 | 76.1 | 12.9 | 68.8 | 52.6 | 23.6 |
| 1971 | 78.7 | 65.1 | 17.2 | 90.0 | 77.5 | 13.9 | 69.9 | 55.6 | 20.5 |
| 1972 | 82.2 | 70.1 | 14.7 | 91.2 | 80.1 | 12.2 | 74.9 | 62.1 | 17.1 |
| 1973 | 80.6 | 70.7 | 12.3 | 90.4 | 81.8 | 9.5 | 72.9 | 61.9 | 15.1 |
| 1974 | 83.3 | 69.1 | 17.0 | 89.8 | 76.0 | 15.4 | 77.5 | 63.1 | 18.6 |
| 1975 | 81.3 | 65.1 | 19.9 | 91.5 | 74.1 | 19.1 | 72.6 | 57.5 | 20.8 |
| 1976 | 84.0 | 68.9 | 18.1 | 91.3 | 75.9 | 16.8 | 76.8 | 61.7 | 19.6 |
| 1977 | 85.3 | 71.9 | 15.7 | 90.8 | 77.7 | 14.4 | 80.9 | 67.1 | 17.0 |
| 1978 | 86.2 | 74.0 | 14.1 | 91.7 | 81.4 | 11.2 | 81.3 | 67.5 | 17.0 |
| 1979 | 86.8 | 72.4 | 16.5 | 92.0 | 79.1 | 14.0 | 82.3 | 66.7 | 18.9 |
| 1980 | 85.0 | 68.9 | 19.0 | 89.7 | 72.6 | 19.1 | 80.9 | 65.8 | 18.6 |
| 1981 | 83.9 | 65.9 | 21.4 | 86.9 | 70.0 | 19.5 | 81.0 | 62.1 | 23.4 |
| 1982 | 82.0 | 60.4 | 26.3 | 85.8 | 64.9 | 24.4 | 78.2 | 56.0 | 28.5 |
| 1983 | 84.5 | 62.9 | 25.5 | 88.8 | 66.1 | 25.6 | 80.5 | 60.0 | 25.4 |
| 1984 | 83.0 | 64.0 | 22.9 | 89.7 | 69.0 | 23.0 | 77.1 | 59.6 | 22.7 |
| 1985 | 82.3 | 62.0 | 24.6 | 86.1 | 65.0 | 24.5 | 78.8 | 59.3 | 24.7 |
| 1986 | 81.4 | 65.2 | 19.9 | 86.2 | 69.5 | 19.4 | 77.3 | 61.6 | 20.3 |
| 1987 | 83.8 | 68.9 | 17.8 | 89.1 | 76.9 | 13.7 | 79.1 | 61.8 | 21.9 |
| 1988 | 84.7 | 71.9 | 15.1 | 88.5 | 74.1 | 16.2 | 80.4 | 69.4 | 13.7 |
| 1989 | 84.4 | 71.9 | 14.7 | 89.3 | 77.8 | 12.9 | 79.1 | 65.7 | 16.9 |
| 1990 | 83.4 | 67.5 | 19.0 | 89.5 | 74.1 | 17.2 | 76.7 | 60.3 | 21.4 |
| 1991 | 79.6 | 59.6 | 25.2 | 84.2 | 62.3 | 26.0 | 74.0 | 56.0 | 24.3 |

NOTE: The labor force participation rate is the percent of the population either employed or unemployed. Those not in the labor force are neither employed nor looking for work. The employment rate is the percent of the population employed. The unemployment rate is the percent of the labor force unemployed. The unemployed are those without a job and looking for work. See supplemental note for a comparison of these labor force statistics.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940–86*, and tabulations based on the October Current Population Surveys.

## Table 30-2 Rates of labor force participation, employment, and unemployment of recent high school dropouts, by sex: 1960–91

| Year | Both sexes | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1960 | 62.2 | 50.9 | 18.2 | 76.4 | 61.8 | 19.0 | 49.2 | 40.8 | 17.0 |
| 1961 | 67.5 | 49.4 | 26.8 | 83.8 | 60.3 | 28.0 | 50.9 | 38.3 | 24.7 |
| 1962 | 56.5 | 40.4 | 28.6 | 84.9 | 61.9 | 27.1 | 34.0 | 23.3 | 31.5 |
| 1963 | 65.9 | 45.1 | 31.7 | 83.3 | 64.4 | 22.7 | 49.6 | 27.0 | 45.7 |
| 1964 | 55.3 | 41.6 | 24.8 | 76.6 | 63.0 | 17.7 | 37.8 | 24.0 | 36.5 |
| 1965 | 61.0 | 47.9 | 21.4 | 82.8 | 66.8 | 19.4 | 36.4 | 26.8 | 26.5 |
| 1966 | 62.3 | 51.4 | 17.4 | 80.3 | 69.4 | 13.6 | 44.4 | 33.6 | 24.4 |
| 1967 | 63.7 | 50.3 | 21.0 | 80.3 | 65.0 | 19.1 | 45.6 | 34.4 | 24.6 |
| 1968 | 63.9 | 50.0 | 21.8 | 80.3 | 65.5 | 18.5 | 47.0 | 34.0 | 27.7 |
| 1969 | 61.3 | 51.0 | 16.8 | 81.8 | 69.8 | 14.7 | 39.4 | 30.9 | 21.4 |
| 1970 | 60.0 | 44.7 | 25.5 | 78.9 | 56.5 | 28.4 | 39.5 | 31.9 | 19.3 |
| 1971 | 63.6 | 46.8 | 26.4 | 80.8 | 59.3 | 26.6 | 42.9 | 31.7 | 26.2 |
| 1972 | 62.7 | 46.0 | 26.5 | 82.3 | 63.2 | 23.2 | 42.3 | 28.5 | 32.7 |
| 1973 | 66.2 | 51.5 | 22.2 | 81.1 | 61.5 | 24.2 | 47.4 | 38.7 | 18.3 |
| 1974 | 67.0 | 48.1 | 28.3 | 82.4 | 62.2 | 24.6 | 48.8 | 31.2 | 36.1 |
| 1975 | 62.7 | 41.4 | 34.0 | 82.4 | 54.1 | 34.3 | 43.4 | 29.0 | 33.3 |
| 1976 | 62.9 | 43.5 | 30.8 | 77.6 | 55.7 | 28.2 | 44.1 | 28.0 | 36.6 |
| 1977 | 68.5 | 50.2 | 26.7 | 81.0 | 60.9 | 24.8 | 54.0 | 38.0 | 29.5 |
| 1978 | 68.7 | 49.7 | 27.6 | 80.2 | 61.0 | 24.0 | 53.1 | 34.7 | 34.6 |
| 1979 | 65.9 | 48.8 | 26.0 | 79.0 | 64.0 | 19.0 | 53.4 | 34.0 | 36.4 |
| 1980 | 63.9 | 43.7 | 31.5 | 72.9 | 50.7 | 30.4 | 52.3 | 34.7 | 33.5 |
| 1981 | 63.5 | 40.5 | 36.2 | 74.1 | 52.6 | 29.0 | 52.6 | 28.0 | 46.7 |
| 1982 | 63.0 | 36.8 | 41.6 | 76.6 | 43.4 | 43.4 | 47.6 | 29.4 | 38.3 |
| 1983 | 63.1 | 43.2 | 31.6 | 75.4 | 50.8 | 32.7 | 48.1 | 34.0 | 29.5 |
| 1984 | 64.4 | 42.9 | 33.3 | 77.7 | 51.7 | 33.5 | 49.1 | 32.9 | 33.1 |
| 1985 | 67.5 | 43.5 | 35.6 | 81.3 | 50.8 | 37.5 | 52.2 | 35.4 | 32.2 |
| 1986 | 63.9 | 46.1 | 27.9 | 72.0 | 56.0 | 22.2 | 54.6 | 34.7 | 36.4 |
| 1987 | 66.3 | 41.2 | 37.8 | 73.7 | 45.6 | 38.1 | 57.5 | 36.0 | 37.4 |
| 1988 | 59.2 | 43.5 | 26.6 | 74.6 | 53.4 | 28.4 | 40.0 | 31.0 | 22.4 |
| 1989 | 65.5 | 47.1 | 28.1 | 74.5 | 52.3 | 29.8 | 54.7 | 40.9 | 25.2 |
| 1990 | 68.9 | 46.7 | 32.3 | 80.5 | 51.2 | 36.4 | 56.3 | 41.6 | 26.2 |
| 1991 | 61.7 | 36.9 | 40.2 | 75.0 | 48.9 | 34.8 | 48.7 | 25.1 | 48.4 |

NOTE: See note to table 30-1. See supplemental note for a comparison of labor force statistics.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey: 1940–86, and unpublished tabulations from the October Current Population Surveys.

## Table 30-3 Rates of labor force participation, employment, and unemployment of recent high school graduates, by race/ethnicity: 1973–91

| Year | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 83.2 | 74.9 | 10.0 | 69.9 | 49.8 | 28.8 | (*) | (*) | (*) |
| 1974 | 84.8 | 72.9 | 14.1 | 75.0 | 45.9 | 38.8 | (*) | (*) | (*) |
| 1975 | 82.4 | 68.9 | 16.4 | 69.3 | 36.9 | 46.7 | (*) | (*) | (*) |
| 1976 | 86.4 | 73.2 | 15.3 | 72.7 | 38.5 | 47.0 | (*) | (*) | (*) |
| 1977 | 87.3 | 76.1 | 12.8 | 74.4 | 43.3 | 41.8 | 81.6 | 65.8 | (*) |
| 1978 | 88.0 | 79.1 | 10.2 | 75.7 | 45.9 | 39.3 | 83.3 | 69.2 | (*) |
| 1979 | 88.9 | 76.4 | 14.0 | 71.8 | 44.1 | 38.5 | 82.4 | 69.4 | (*) |
| 1980 | 87.6 | 74.6 | 14.8 | 72.0 | 35.0 | 51.4 | (*) | (*) | (*) |
| 1981 | 87.4 | 73.0 | 16.4 | 69.0 | 31.5 | 54.3 | (*) | (*) | (*) |
| 1982 | 85.5 | 68.5 | 19.9 | 69.4 | 29.4 | 57.6 | 75.5 | 43.9 | (*) |
| 1983 | 85.9 | 69.8 | 18.8 | 75.9 | 34.9 | 54.1 | (*) | (*) | (*) |
| 1984 | 86.2 | 70.7 | 18.0 | 73.2 | 44.8 | 38.7 | 78.8 | 49.0 | 37.8 |
| 1985 | 85.0 | 71.0 | 16.5 | 76.6 | 34.4 | 55.1 | (*) | (*) | (*) |
| 1986 | 85.3 | 71.5 | 16.2 | 67.4 | 41.0 | 39.1 | 81.9 | 64.9 | 20.8 |
| 1987 | 87.8 | 75.3 | 14.3 | 73.8 | 46.9 | 36.4 | 69.2 | 53.8 | 22.2 |
| 1988 | 88.1 | 78.2 | 11.3 | 73.5 | 55.5 | 24.5 | 81.8 | 57.1 | (*) |
| 1989 | 88.3 | 77.6 | 12.1 | 71.0 | 53.5 | 24.5 | 74.7 | 49.3 | (*) |
| 1990 | 88.2 | 75.1 | 14.8 | 69.9 | 44.9 | 35.8 | (*) | (*) | (*) |
| 1991 | 84.4 | 67.1 | 20.6 | 67.5 | 32.5 | 51.8 | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

NOTE: See note to table 30-1. See supplemental note for a comparison of labor force statistics.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-4 Rates of labor force participation, employment, and unemployment of recent high school dropouts, by race/ethnicity: 1973–91

| Year | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 71.0 | 55.1 | 22.4 | 59.4 | 43.9 | 26.1 | (*) | (*) | (*) |
| 1974 | 73.8 | 53.9 | 27.0 | 58.1 | 35.9 | 38.1 | (*) | (*) | (*) |
| 1975 | 65.4 | 46.2 | 29.3 | 56.1 | 22.0 | (*) | 59.5 | 46.8 | (*) |
| 1976 | 68.9 | 49.7 | 27.9 | 44.8 | 20.8 | (*) | (*) | (*) | (*) |
| 1977 | 74.8 | 56.6 | 24.3 | 58.6 | 34.5 | 41.2 | (*) | (*) | (*) |
| 1978 | 75.2 | 54.2 | 27.9 | 59.5 | 41.1 | 30.9 | 70.7 | 50.7 | (*) |
| 1979 | 70.5 | 54.2 | 23.0 | 51.7 | 27.6 | 46.7 | (*) | (*) | (*) |
| 1980 | 69.8 | 51.2 | 26.7 | 51.5 | 20.8 | (*) | 66.3 | 47.7 | (*) |
| 1981 | 71.2 | 51.2 | 28.0 | 46.8 | 11.5 | (*) | 76.8 | 50.0 | (*) |
| 1982 | 69.5 | 44.5 | 36.0 | 58.2 | 16.4 | (*) | (*) | (*) | (*) |
| 1983 | 65.4 | 49.4 | 24.4 | 59.8 | 26.5 | (*) | (*) | (*) | (*) |
| 1984 | 71.9 | 51.3 | 28.6 | 55.4 | 23.8 | (*) | 53.6 | 35.7 | (*) |
| 1985 | 74.4 | 50.0 | 32.8 | 53.7 | 29.3 | (*) | 68.8 | 37.6 | (*) |
| 1986 | 69.6 | 50.5 | 27.4 | 60.5 | 31.6 | (*) | 60.8 | 46.4 | 23.7 |
| 1987 | 69.9 | 48.1 | 31.1 | 61.3 | 26.1 | (*) | (*) | (*) | (*) |
| 1988 | 65.1 | 47.6 | 27.0 | 35.7 | 17.3 | (*) | 64.4 | 55.4 | (*) |
| 1989 | 74.4 | 57.6 | 22.6 | 51.8 | 26.3 | (*) | (*) | (*) | (*) |
| 1990 | 74.8 | 56.2 | 24.9 | 65.9 | 30.5 | (*) | (*) | (*) | (*) |
| 1991 | 61.6 | 38.4 | 37.6 | 49.5 | 24.7 | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

NOTE: See note to table 30-1. See supplemental note for a comparison of labor force statistics.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-5 Rates of labor force participation, employment, and unemployment of recent high school *graduates*, by family income: 1973–91

| October | Low income | | | Middle income | | | High income | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 66.2 | 54.2 | 18.0 | 82.7 | 72.5 | 12.3 | 85.2 | 77.5 | 9.0 |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 68.8 | 51.7 | 24.8 | 82.5 | 65.7 | 20.4 | 86.0 | 72.0 | 16.3 |
| 1976 | 74.3 | 50.3 | 32.3 | 84.5 | 69.7 | 17.5 | 87.2 | 74.6 | 14.4 |
| 1977 | 75.4 | 56.3 | 25.4 | 86.4 | 72.1 | 16.5 | 89.7 | 81.7 | 8.9 |
| 1978 | 80.9 | 59.5 | 26.4 | 85.7 | 74.3 | 13.3 | 90.0 | 80.9 | 10.1 |
| 1979 | 84.7 | 67.9 | 19.8 | 85.6 | 69.8 | 18.5 | 90.1 | 80.5 | 10.7 |
| 1980 | 81.6 | 56.6 | 30.6 | 85.0 | 70.2 | 17.4 | 87.3 | 74.0 | 15.2 |
| 1981 | 72.4 | 53.2 | 26.5 | 84.8 | 64.5 | 23.9 | 87.9 | 76.9 | 12.5 |
| 1982 | 71.4 | 44.4 | 37.7 | 84.7 | 61.3 | 27.6 | 81.8 | 70.0 | 14.5 |
| 1983 | 79.6 | 48.8 | 38.7 | 85.2 | 65.6 | 23.0 | 86.1 | 65.3 | 24.1 |
| 1984 | 71.0 | 51.7 | 27.2 | 85.1 | 65.4 | 23.2 | 87.9 | 72.0 | 18.1 |
| 1985 | 79.2 | 47.4 | 40.1 | 82.3 | 61.7 | 25.0 | 84.4 | 74.7 | 11.5 |
| 1986 | 77.3 | 57.2 | 26.0 | 81.0 | 63.9 | 21.2 | 86.5 | 77.3 | 10.7 |
| 1987 | 74.1 | 56.7 | 23.5 | 84.0 | 67.6 | 19.6 | 92.2 | 83.7 | 9.3 |
| 1988 | 75.4 | 55.8 | 26.0 | 85.3 | 73.2 | 14.2 | 90.9 | 82.3 | 9.5 |
| 1989 | 78.8 | 60.0 | 23.9 | 84.1 | 72.2 | 14.1 | 89.2 | 78.3 | 12.1 |
| 1990 | 77.9 | 49.0 | 37.1 | 85.0 | 71.3 | 16.1 | 87.9 | 72.1 | 17.9 |
| 1991 | 71.8 | 48.6 | 32.3 | 81.7 | 59.0 | 27.8 | 82.4 | 73.3 | 11.0 |

—Not available.

NOTE: Low income is defined as the bottom 20 percent of all family incomes; high income is defined as the top 20 percent of all family incomes; and middle income is defined as the 60 percent of family incomes between high and low income. See note to table 30-1. See supplemental note for a comparison of labor force statistics.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-6 Rates of labor force participation, employment, and unemployment of high school *dropouts*, by family income: October 1973–91

| October | Low income | | | Middle income | | | High income | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 58.9 | 46.9 | 20.3 | 69.0 | 53.6 | 22.3 | (*) | (*) | (*) |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 51.5 | 33.3 | 35.3 | 66.9 | 45.3 | 32.2 | 72.0 | 46.2 | (*) |
| 1976 | 56.0 | 33.5 | 40.2 | 66.7 | 47.7 | 28.4 | 71.1 | 55.3 | (*) |
| 1977 | 65.8 | 44.4 | 32.6 | 71.9 | 53.4 | 25.7 | 84.0 | 67.9 | (*) |
| 1978 | 61.9 | 42.6 | 31.1 | 71.9 | 52.9 | 26.4 | 87.6 | 59.3 | 32.3 |
| 1979 | 50.0 | 26.3 | 47.5 | 69.7 | 54.4 | 22.0 | 84.8 | 70.4 | 17.0 |
| 1980 | 52.3 | 29.8 | 43.0 | 68.0 | 47.8 | 29.7 | 84.8 | 65.2 | 23.1 |
| 1981 | 58.0 | 27.6 | 52.4 | 68.2 | 43.8 | 35.8 | 75.3 | 64.0 | (*) |
| 1982 | 57.2 | 27.9 | 51.2 | 70.4 | 40.8 | 42.1 | (*) | (*) | (*) |
| 1983 | 47.9 | 28.2 | 41.2 | 69.3 | 46.1 | 33.5 | (*) | (*) | (*) |
| 1984 | 55.4 | 29.2 | 47.3 | 68.4 | 47.8 | 30.1 | (*) | (*) | (*) |
| 1985 | 58.9 | 29.2 | 50.4 | 74.7 | 51.0 | 31.7 | (*) | (*) | (*) |
| 1986 | 62.0 | 39.6 | 36.2 | 68.3 | 50.7 | 25.9 | (*) | (*) | (*) |
| 1987 | 60.5 | 24.7 | 59.2 | 69.6 | 47.8 | 31.4 | (*) | (*) | (*) |
| 1988 | 51.2 | 36.6 | 28.4 | 63.8 | 45.8 | 28.1 | (*) | (*) | (*) |
| 1989 | 58.6 | 35.9 | 38.8 | 68.8 | 51.7 | 24.9 | (*) | (*) | (*) |
| 1990 | 61.1 | 30.6 | 50.0 | 70.5 | 53.5 | 24.1 | (*) | (*) | (*) |
| 1991 | 51.1 | 27.0 | (*) | 65.7 | 42.3 | 35.7 | (*) | (*) | (*) |

— Not available.

*Too few sample observations for a reliable estimate.

NOTE: See notes to tables 30-1 and 30-5. See supplemental note for a comparison of labor for statistics.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-7 Standard errors for estimated percentages in table 30-1

| Year | Both sexes |  |  | Male |  |  | Female |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1960 | 3.3 | 3.7 | 3.2 | 4.0 | 5.5 | 4.8 | 4.6 | 4.9 | 4.3 |
| 1961 | 3.1 | 3.7 | 3.4 | 4.4 | 5.8 | 5.3 | 4.2 | 4.8 | 4.3 |
| 1962 | 3.1 | 3.6 | 3.0 | 3.5 | 5.0 | 4.4 | 4.6 | 4.9 | 4.1 |
| 1963 | 3.1 | 3.7 | 3.3 | 3.7 | 5.4 | 5.1 | 4.4 | 4.8 | 4.4 |
| 1964 | 3.0 | 3.4 | 3.1 | 3.3 | 4.7 | 4.0 | 4.2 | 4.5 | 4.6 |
| 1965 | 2.5 | 2.9 | 2.4 | 2.9 | 3.7 | 2.8 | 3.7 | 4.1 | 3.7 |
| 1966 | 2.8 | 3.1 | 2.6 | 3.5 | 4.3 | 3.2 | 3.9 | 4.1 | 3.9 |
| 1967 | 1.2 | 1.4 | 1.2 | 1.6 | 1.9 | 1.5 | 1.7 | 1.9 | 1.8 |
| 1968 | 1.2 | 1.4 | 1.2 | 1.6 | 2.0 | 1.6 | 1.7 | 1.9 | 1.6 |
| 1969 | 1.1 | 1.3 | 1.0 | 1.3 | 1.6 | 1.2 | 1.6 | 1.8 | 1.5 |
| 1970 | 1.2 | 1.3 | 1.2 | 1.4 | 1.8 | 1.5 | 1.7 | 1.9 | 1.9 |
| 1971 | 1.1 | 1.3 | 1.2 | 1.3 | 1.8 | 1.5 | 1.7 | 1.8 | 1.8 |
| 1972 | 1.0 | 1.2 | 1.0 | 1.1 | 1.6 | 1.3 | 1.5 | 1.7 | 1.5 |
| 1973 | 1.0 | 1.1 | 0.9 | 1.1 | 1.5 | 1.2 | 1.5 | 1.6 | 1.4 |
| 1974 | 0.9 | 1.2 | 1.0 | 1.1 | 1.6 | 1.4 | 1.4 | 1.7 | 1.5 |
| 1975 | 1.0 | 1.2 | 1.1 | 1.1 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 |
| 1976 | 1.0 | 1.2 | 1.1 | 1.0 | 1.6 | 1.4 | 1.6 | 1.8 | 1.7 |
| 1977 | 1.0 | 1.2 | 1.1 | 1.2 | 1.7 | 1.5 | 1.4 | 1.7 | 1.5 |
| 1978 | 0.9 | 1.2 | 1.0 | 1.1 | 1.5 | 1.3 | 1.4 | 1.7 | 1.5 |
| 1979 | 0.9 | 1.2 | 1.1 | 1.1 | 1.6 | 1.4 | 1.4 | 1.7 | 1.6 |
| 1980 | 1.0 | 1.2 | 1.1 | 1.1 | 1.7 | 1.6 | 1.5 | 1.8 | 1.7 |
| 1981 | 1.0 | 1.4 | 1.3 | 1.4 | 1.9 | 1.7 | 1.5 | 1.9 | 1.9 |
| 1982 | 1.3 | 1.6 | 1.6 | 1.7 | 2.3 | 2.2 | 2.0 | 2.4 | 2.4 |
| 1983 | 1.3 | 1.7 | 1.7 | 1.6 | 2.4 | 2.4 | 1.9 | 2.4 | 2.4 |
| 1984 | 1.3 | 1.7 | 1.7 | 1.6 | 2.4 | 2.3 | 2.1 | 2.4 | 2.3 |
| 1985 | 1.5 | 1.9 | 1.9 | 2.0 | 2.7 | 2.6 | 2.2 | 2.7 | 2.6 |
| 1986 | 1.4 | 1.7 | 1.6 | 1.9 | 2.5 | 2.3 | 2.1 | 2.4 | 2.3 |
| 1987 | 1.4 | 1.8 | 1.6 | 1.8 | 2.4 | 2.1 | 2.2 | 2.6 | 2.5 |
| 1988 | 2.0 | 2.5 | 2.2 | 2.5 | 3.4 | 3.0 | 3.2 | 3.7 | 3.1 |
| 1989 | 2.1 | 2.6 | 2.3 | 2.5 | 3.4 | 2.9 | 3.5 | 4.0 | 3.6 |
| 1990 | 1.9 | 2.4 | 2.2 | 2.2 | 3.1 | 2.9 | 3.2 | 3.7 | 3.5 |
| 1991 | 2.2 | 2.7 | 2.7 | 2.7 | 3.5 | 3.5 | 3.6 | 4.1 | 4.1 |

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940–86*, and tabulations based on the October Current Population Surveys.

## Table 30-8 Standard errors for estimated percentages in table 30-2

| Year | Both sexes |  |  | Male |  |  | Female |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1960 | 6.2 | 6.4 | 6.3 | 7.8 | 9.0 | 8.3 | 8.8 | 8.7 | 9.5 |
| 1961 | 5.9 | 6.3 | 6.8 | 6.5 | 8.7 | 8.7 | 9.0 | 8.7 | 10.8 |
| 1962 | 7.0 | 6.9 | 8.4 | 7.6 | 10.2 | 10.2 | 8.9 | 7.9 | 15.0 |
| 1963 | 6.8 | 7.1 | 8.2 | 7.7 | 9.9 | 9.5 | 10.0 | 8.8 | 14.1 |
| 1964 | 4.8 | 4.7 | 5.6 | 6.1 | 6.9 | 6.3 | 6.3 | 5.5 | 10.2 |
| 1965 | 4.4 | 4.5 | 4.8 | 4.7 | 5.9 | 5.4 | 6.4 | 5.9 | 9.7 |
| 1966 | 4.7 | 4.9 | 4.7 | 5.5 | 6.4 | 5.3 | 6.9 | 6.5 | 8.9 |
| 1967 | 2.0 | 2.1 | 2.1 | 2.3 | 2.7 | 2.5 | 3.0 | 2.8 | 3.8 |
| 1968 | 2.0 | 2.1 | 2.1 | 2.3 | 2.7 | 2.5 | 2.9 | 2.8 | 3.8 |
| 1969 | 1.9 | 2.0 | 1.9 | 2.1 | 2.5 | 2.2 | 2.8 | 2.6 | 3.7 |
| 1970 | 1.9 | 1.9 | 2.1 | 2.2 | 2.6 | 2.7 | 2.7 | 2.6 | 3.5 |
| 1971 | 1.9 | 2.0 | 2.2 | 2.1 | 2.7 | 2.7 | 2.9 | 2.7 | 3.9 |
| 1972 | 1.8 | 1.9 | 2.1 | 2.0 | 2.5 | 2.5 | 2.6 | 2.4 | 3.9 |
| 1973 | 1.7 | 1.8 | 1.9 | 1.9 | 2.4 | 2.3 | 2.7 | 2.7 | 3.1 |
| 1974 | 1.7 | 1.8 | 2.0 | 1.8 | 2.3 | 2.3 | 2.6 | 2.5 | 3.6 |
| 1975 | 1.8 | 1.8 | 2.2 | 2.0 | 2.7 | 2.8 | 2.6 | 2.4 | 3.8 |
| 1976 | 1.8 | 1.8 | 2.2 | 2.1 | 2.5 | 2.5 | 2.8 | 2.5 | 4.1 |
| 1977 | 1.7 | 1.9 | 2.0 | 2.0 | 2.5 | 2.4 | 2.7 | 2.6 | 3.4 |
| 1978 | 1.7 | 1.8 | 2.0 | 1.9 | 2.4 | 2.3 | 2.8 | 2.7 | 3.7 |
| 1979 | 1.8 | 1.9 | 2.0 | 2.2 | 2.6 | 2.4 | 2.6 | 2.5 | 3.5 |
| 1980 | 1.9 | 1.9 | 2.3 | 2.3 | 2.6 | 2.8 | 2.9 | 2.8 | 3.8 |
| 1981 | 1.9 | 2.0 | 2.4 | 2.5 | 2.8 | 3.0 | 2.9 | 2.6 | 3.9 |
| 1982 | 2.5 | 2.5 | 3.2 | 3.0 | 3.5 | 4.0 | 3.7 | 3.4 | 5.2 |
| 1983 | 2.6 | 2.7 | 3.2 | 3.1 | 3.6 | 3.9 | 4.0 | 3.8 | 5.3 |
| 1984 | 2.6 | 2.7 | 3.2 | 3.1 | 3.7 | 3.9 | 4.0 | 3.7 | 5.3 |
| 1985 | 2.5 | 2.6 | 3.1 | 2.9 | 3.7 | 3.9 | 3.9 | 3.7 | 5.0 |
| 1986 | 2.7 | 2.8 | 3.1 | 3.4 | 3.8 | 3.7 | 4.1 | 3.9 | 5.3 |
| 1987 | 2.8 | 2.9 | 3.5 | 3.5 | 4.0 | 4.5 | 4.3 | 4.2 | 5.6 |
| 1988 | 3.9 | 3.9 | 4.5 | 4.6 | 5.3 | 5.5 | 5.8 | 5.5 | 7.8 |
| 1989 | 4.2 | 4.4 | 4.9 | 5.2 | 5.9 | 6.3 | 6.5 | 6.4 | 7.7 |
| 1990 | 3.7 | 3.9 | 4.5 | 4.3 | 5.4 | 5.8 | 5.7 | 5.7 | 6.8 |
| 1991 | 4.0 | 3.9 | 5.1 | 5.0 | 5.8 | 6.4 | 5.8 | 5.0 | 8.2 |

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940–86*, and tabulations based on the October Current Population Surveys.

## Table 30-9 Standard errors for estimated percentages in table 30-3

| Year | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 1.0 | 1.2 | 0.9 | 3.7 | 4.0 | 4.3 | (*) | (*) | (*) |
| 1974 | 1.0 | 1.2 | 1.0 | 3.9 | 4.5 | 5.1 | (*) | (*) | (*) |
| 1975 | 1.1 | 1.3 | 1.1 | 4.1 | 4.3 | 5.4 | (*) | (*) | (*) |
| 1976 | 1.0 | 1.3 | 1.1 | 4.2 | 4.5 | 5.5 | (*) | (*) | (*) |
| 1977 | 1.0 | 1.3 | 1.1 | 4.2 | 4.8 | 5.6 | 4.9 | 6.0 | (*) |
| 1978 | 1.0 | 1.2 | 1.0 | 3.9 | 4.6 | 5.1 | 4.7 | 5.8 | (*) |
| 1979 | 0.9 | 1.3 | 1.1 | 4.3 | 4.7 | 5.5 | 4.6 | 5.5 | (*) |
| 1980 | 1.0 | 1.3 | 1.1 | 4.0 | 4.2 | 5.2 | (*) | (*) | (*) |
| 1981 | 1.1 | 1.4 | 1.3 | 4.1 | 4.1 | 5.3 | (*) | (*) | (*) |
| 1982 | 1.4 | 1.8 | 1.7 | 4.5 | 4.5 | 5.8 | 6.2 | 7.1 | (*) |
| 1983 | 1.4 | 1.9 | 1.7 | 4.2 | 4.7 | 5.6 | (*) | (*) | (*) |
| 1984 | 1.5 | 1.9 | 1.8 | 4.2 | 4.7 | 5.4 | 5.7 | 7.0 | 7.6 |
| 1985 | 1.6 | 2.1 | 1.8 | 4.7 | 5.3 | 6.3 | (*) | (*) | (*) |
| 1986 | 1.5 | 2.0 | 1.7 | 4.6 | 4.9 | 5.9 | 8.2 | 10.2 | 9.6 |
| 1987 | 1.5 | 2.0 | 1.7 | 5.3 | 6.0 | 6.8 | 8.8 | 9.5 | 9.6 |
| 1988 | 2.1 | 2.7 | 2.2 | 6.6 | 7.4 | 7.5 | 17.8 | 22.8 | (*) |
| 1989 | 2.2 | 2.8 | 2.4 | 7.9 | 8.6 | 8.9 | 20.3 | 23.3 | (*) |
| 1990 | 2.0 | 2.7 | 2.3 | 6.4 | 6.9 | 8.0 | (*) | (*) | (*) |
| 1991 | 2.4 | 3.1 | 2.9 | 6.7 | 6.7 | 8.7 | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-10 Standard errors for estimated percentages in table 30-4

| Year | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment | Labor force | Employment | Unemployment |
| 1973 | 2.7 | 3.0 | 2.9 | 6.3 | 6.3 | 7.3 | (*) | (*) | (*) |
| 1974 | 2.6 | 3.0 | 3.1 | 6.1 | 5.9 | 7.8 | (*) | (*) | (*) |
| 1975 | 3.0 | 3.1 | 3.5 | 6.9 | 5.7 | (*) | 7.3 | 7.4 | (*) |
| 1976 | 2.8 | 3.0 | 3.2 | 7.1 | 5.8 | (*) | (*) | (*) | (*) |
| 1977 | 2.6 | 2.9 | 2.9 | 6.6 | 6.4 | 8.6 | (*) | (*) | (*) |
| 1978 | 2.6 | 3.0 | 3.1 | 6.3 | 6.3 | 7.7 | 7.0 | 7.7 | (*) |
| 1979 | 2.8 | 3.0 | 3.1 | 6.7 | 6.0 | 9.3 | (*) | (*) | (*) |
| 1980 | 2.9 | 3.2 | 3.4 | 7.1 | 5.7 | (*) | 6.8 | 7.2 | (*) |
| 1981 | 3.1 | 3.4 | 3.6 | 6.4 | 4.1 | (*) | 6.2 | 7.4 | (*) |
| 1982 | 3.3 | 3.6 | 4.1 | 7.6 | 5.7 | (*) | (*) | (*) | (*) |
| 1983 | 3.8 | 3.9 | 4.2 | 7.7 | 6.9 | (*) | (*) | (*) | (*) |
| 1984 | 3.4 | 3.8 | 4.0 | 8.4 | 7.2 | (*) | 7.7 | 7.4 | (*) |
| 1985 | 3.5 | 4.0 | 4.3 | 7.7 | 7.0 | (*) | 9.8 | 10.2 | (*) |
| 1986 | 3.8 | 4.2 | 4.5 | 9.5 | 9.1 | (*) | 8.9 | 9.1 | 9.9 |
| 1987 | 3.7 | 4.1 | 4.5 | 7.9 | 7.1 | (*) | (*) | (*) | (*) |
| 1988 | 4.1 | 4.3 | 4.7 | 9.0 | 7.1 | (*) | 11.4 | 11.8 | (*) |
| 1989 | 4.3 | 4.9 | 4.8 | 8.7 | 7.6 | (*) | (*) | (*) | (*) |
| 1990 | 4.4 | 5.1 | 5.1 | 9.7 | 9.4 | (*) | (*) | (*) | (*) |
| 1991 | 5.3 | 5.3 | 6.7 | 9.6 | 8.3 | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-11 Standard errors for estimated percentges in table 30-5

| October | Low income | | | Middle income | | | High income | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employ-ment | Unem-ployment | Labor force | Employ-ment | Unem-ployment | Labor force | Employ-ment | Unem-ployment |
| 1973 | 3.0 | 3.1 | 3.0 | 1.2 | 1.4 | 1.2 | 1.9 | 2.2 | 1.7 |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 3.1 | 3.3 | 3.5 | 1.3 | 1.6 | 1.5 | 1.8 | 2.4 | 2.1 |
| 1976 | 3.4 | 3.9 | 4.3 | 1.2 | 1.5 | 1.4 | 1.7 | 2.2 | 1.9 |
| 1977 | 3.0 | 3.4 | 3.5 | 1.2 | 1.6 | 1.4 | 1.7 | 2.1 | 1.6 |
| 1978 | 2.8 | 3.5 | 3.5 | 1.2 | 1.5 | 1.3 | 1.6 | 2.1 | 1.7 |
| 1979 | 2.6 | 3.4 | 3.2 | 1.2 | 1.6 | 1.4 | 1.5 | 2.1 | 1.7 |
| 1980 | 2.6 | 3.3 | 3.4 | 1.3 | 1.6 | 1.4 | 1.8 | 2.4 | 2.1 |
| 1981 | 3.4 | 3.7 | 3.9 | 1.3 | 1.7 | 1.7 | 1.9 | 2.5 | 2.1 |
| 1982 | 3.9 | 4.3 | 4.9 | 1.5 | 2.0 | 2.0 | 2.9 | 3.5 | 2.9 |
| 1983 | 3.7 | 4.5 | 5.0 | 1.6 | 2.1 | 2.0 | 2.6 | 3.6 | 3.5 |
| 1984 | 3.7 | 4.1 | 4.3 | 1.6 | 2.2 | 2.1 | 2.6 | 3.6 | 3.3 |
| 1985 | 3.9 | 4.7 | 5.2 | 1.9 | 2.4 | 2.4 | 3.1 | 3.7 | 3.0 |
| 1986 | 3.4 | 4.0 | 4.0 | 1.9 | 2.3 | 2.2 | 2.8 | 3.4 | 2.7 |
| 1987 | 3.9 | 4.4 | 4.3 | 1.9 | 2.4 | 2.2 | 2.3 | 3.1 | 2.5 |
| 1988 | 5.7 | 6.5 | 6.6 | 2.5 | 3.2 | 2.7 | 3.5 | 4.7 | 3.8 |
| 1989 | 5.8 | 7.0 | 6.8 | 2.8 | 3.5 | 2.9 | 3.7 | 4.9 | 4.1 |
| 1990 | 5.4 | 6.5 | 7.1 | 2.3 | 2.9 | 2.5 | 4.0 | 5.6 | 5.1 |
| 1991 | 5.3 | 5.9 | 6.5 | 2.7 | 3.5 | 3.5 | 4.7 | 5.5 | 4.3 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Table 30-12 Standard errors for estimated percentges in table 30-6

| October | Low income | | | Middle income | | | High income | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor force | Employ-ment | Unem-ployment | Labor force | Employ-ment | Unem-ployment | Labor force | Employ-ment | Unem-ployment |
| 1973 | 3.5 | 3.5 | 3.7 | 2.1 | 2.3 | 2.3 | (*) | (*) | (*) |
| 1974 | — | — | — | — | — | — | — | — | — |
| 1975 | 3.6 | 3.4 | 4.8 | 2.4 | 2.5 | 2.9 | 4.7 | 5.3 | (*) |
| 1976 | 3.7 | 3.5 | 4.8 | 2.3 | 2.4 | 2.7 | 5.3 | 5.8 | (*) |
| 1977 | 3.6 | 3.8 | 4.4 | 2.2 | 2.4 | 2.5 | 4.4 | 5.6 | (*) |
| 1978 | 3.7 | 3.8 | 4.5 | 2.2 | 2.5 | 2.6 | 3.3 | 4.9 | 5.0 |
| 1979 | 3.8 | 3.3 | 5.4 | 2.4 | 2.6 | 2.6 | 3.4 | 4.4 | 3.9 |
| 1980 | 3.6 | 3.3 | 5.0 | 2.5 | 2.7 | 3.0 | 4.0 | 5.3 | 5.1 |
| 1981 | 3.9 | 3.6 | 5.2 | 2.5 | 2.7 | 3.1 | 4.9 | 5.4 | (*) |
| 1982 | 4.4 | 4.0 | 5.9 | 3.2 | 3.4 | 4.1 | (*) | (*) | (*) |
| 1983 | 5.5 | 5.0 | 7.9 | 3.3 | 3.5 | 4.0 | (*) | (*) | (*) |
| 1984 | 4.6 | 4.2 | 6.2 | 3.4 | 3.7 | 4.1 | (*) | (*) | (*) |
| 1985 | 4.5 | 4.1 | 5.9 | 3.3 | 3.8 | 4.1 | (*) | (*) | (*) |
| 1986 | 4.7 | 4.7 | 5.9 | 3.5 | 3.8 | 4.0 | (*) | (*) | (*) |
| 1987 | 5.1 | 4.5 | 6.5 | 3.5 | 3.8 | 4.3 | (*) | (*) | (*) |
| 1988 | 6.4 | 6.1 | 8.0 | 5.1 | 5.3 | 6.0 | (*) | (*) | (*) |
| 1989 | 7.6 | 7.4 | 9.8 | 5.2 | 5.7 | 5.9 | (*) | (*) | (*) |
| 1990 | 6.5 | 6.1 | 8.5 | 4.7 | 5.1 | 5.2 | (*) | (*) | (*) |
| 1991 | 6.8 | 6.0 | (*) | 5.2 | 5.4 | 6.4 | (*) | (*) | (*) |

— Not available.

*Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

## Note on labor force statistics

The Bureau of Labor Statistics uses three categories to classify the labor force status of an individual: employed, unemployed, and not in the labor force.

An *employed* individual is someone with a job and working. Also included are those not working but with jobs from which they are temporarily absent because of illness, vacation, labor-management disputes, bad weather, and personal reasons. Those in the military are also counted as employed. An *unemployed* individual is someone without a job, available for work, and who has made specific efforts to find employment some time during the prior 4 weeks. Also included are persons waiting to be recalled to a job from which they had been laid off or are waiting to report to a new job within 30 days. Individuals who are neither employed nor unemployed are *not in the labor force.*

The *labor force* comprises all persons classified as employed or unemployed. The *unemployment rate* represents the number unemployed as a percent of the labor force. The *labor force participation rate* is the ratio of the labor force to the population. The *employment-population* ratio is the percentage of employed individuals in the population. We refer to the last statistic as the *employment rate* in *Indicator 30.*

Each of these statistics is typically reported in two forms, one that includes the military and one that excludes them. For instance, the *civilian employment-population ratio* is the percentage of all employed civilians in the civilian non-institutional population. The *civilian labor force participation rate* is the ratio of the civilian labor force to the civilian non-institutional population. The labor force statistics reported in *Indicator 30* and its associated supplemental tables are all for the civilian non-institutional population. *Indicator 30* reports the form that excludes the military.

Each of these measures can be computed for groups classified by age, sex, race, Hispanic origin, and so on.

Further elaboration on these labor force statistics is available in the explanatory notes of *Employment and Earnings*, published monthly by the Bureau of Labor Statistics of the U.S. Department of Labor.

## Table 31-1 Standard errors for estimated percentages in text table of *Indicator 31*

| Age | Men |  |  |  |  | Women |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  | Total | Grades 9 to 11 | High school dipolma | Some college | Bachelor's degree | Total | Grades 9 to 11 | High school dipolma | Some college | Bachelor's degree |
| 20–24 | 0.7 | 2.1 | 0.9 | 1.3 | 2.1 | 0.8 | 2.7 | 1.3 | 1.2 | 1.8 |
| 25–29 | 0.5 | 1.9 | 0.7 | 1.0 | 1.0 | 0.7 | 2.7 | 1.2 | 1.4 | 1.2 |
| 30–34 | 0.4 | 1.7 | 0.6 | 0.9 | 0.7 | 0.7 | 2.8 | 1.2 | 1.3 | 1.3 |
| 35–39 | 0.5 | 2.0 | 0.8 | 0.9 | 0.6 | 0.7 | 2.8 | 1.1 | 1.3 | 1.3 |
| 40–44 | 0.5 | 2.4 | 0.9 | 0.8 | 0.6 | 0.7 | 3.1 | 1.2 | 1.3 | 1.2 |
| 45–49 | 0.6 | 2.7 | 0.9 | 1.0 | 0.7 | 0.8 | 3.2 | 1.3 | 1.5 | 1.4 |
| 50–54 | 0.7 | 2.5 | 1.1 | 1.2 | 0.9 | 1.0 | 2.8 | 1.5 | 2.1 | 2.0 |
| 55–59 | 1.0 | 3.1 | 1.7 | 2.0 | 1.6 | 1.1 | 2.9 | 1.7 | 2.6 | 2.7 |
| 60–64 | 1.2 | 2.9 | 2.1 | 3.1 | 2.5 | 1.1 | 2.7 | 1.6 | 2.8 | 3.4 |

— Too few individuals of this age have completed this level of education.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Table 32-1 Percentage difference between median annual earnings of wage and salary workers who are high school graduates and workers with other levels of educational attainment, by sex and race/ethnicity: 1991

| Race/ethnicity and age | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Grade 8 or less | Grades 9 to 11 | Some college | Bachelor's degree | Grade 8 or less | Grades 9 to 11 | Some college | Bachelor's degree |
| | | | | **All wage and salary workers** | | | | |
| Total | | | | | | | | |
| 25–34 | (49) | (35) | 12 | 54 | (30) | (40) | 30 | 88 |
| 35–44 | (46) | (34) | 21 | 65 | (42) | (33) | 27 | 90 |
| 45–54 | (48) | (27) | 22 | 62 | (42) | (20) | 28 | 93 |
| 55–64 | (37) | (21) | 17 | 61 | (33) | (22) | 33 | 111 |
| White | | | | | | | | |
| 25–34 | (55) | (30) | 13 | 47 | (20) | (37) | 32 | 88 |
| 35–44 | (39) | (30) | 19 | 61 | (43) | (29) | 26 | 87 |
| 45–54 | (42) | (27) | 17 | 56 | (37) | (21) | 26 | 93 |
| 55–64 | (33) | (17) | 17 | 63 | (32) | (21) | 29 | 103 |
| Black | | | | | | | | |
| 25–34 | — | (32) | 14 | 62 | — | (47) | 31 | 93 |
| 35–44 | — | (23) | 57 | 115 | — | (36) | 31 | 96 |
| 45–54 | (47) | (29) | 23 | 47 | — | (11) | 54 | 99 |
| 55–64 | (22) | (22) | — | — | — | (34) | 50 | — |
| Hispanic | | | | | | | | |
| 25–34 | (30) | (16) | 26 | 62 | (27) | (42) | 24 | 71 |
| 35–44 | (40) | (21) | 25 | 86 | (35) | — | 42 | 125 |
| 45–54 | (39) | — | 43 | — | (48) | — | — | — |
| 55–64 | — | — | — | — | — | — | — | — |
| | | | | **Full-time, full-year workers** | | | | |
| Total | | | | | | | | |
| 25–34 | (36) | (20) | 18 | 57 | (33) | (29) | 18 | 56 |
| 35–44 | (39) | (24) | 20 | 60 | (37) | (24) | 22 | 70 |
| 45–54 | (41) | (29) | 16 | 52 | (39) | (22) | 24 | 68 |
| 55–64 | (31) | (18) | 10 | 65 | (31) | (24) | 19 | 74 |
| White | | | | | | | | |
| 25–34 | (33) | (15) | 13 | 49 | — | (29) | 19 | 55 |
| 35–44 | (29) | (21) | 19 | 57 | — | (22) | 23 | 68 |
| 45–54 | (37) | (24) | 14 | 53 | — | (25) | 22 | 68 |
| 55–64 | (31) | (16) | 15 | 73 | — | (18) | 19 | 70 |
| Black | | | | | | | | |
| 25–34 | — | (22) | 25 | 65 | — | (34) | 16 | 46 |
| 35–44 | — | (16) | 39 | 77 | — | (23) | 19 | 73 |
| 45–54 | — | (32) | 25 | 40 | — | (15) | 42 | 68 |
| 55–64 | — | 7 | — | — | — | — | — | — |
| Hispanic | | | | | | | | |
| 25–34 | (30) | (14) | 35 | 81 | — | — | 18 | 49 |
| 35–44 | (35) | — | 24 | 78 | — | — | 32 | — |
| 45–54 | (36) | — | — | — | — | — | — | — |
| 55–64 | — | — | — | — | — | — | — | — |

— Too few sample observations for a reliable estimate.

NOTE: Parentheses are used to indicate negative numbers. Grades 9 to 11 includes those who attended grade 12 but did not receive a diploma; high school diploma includes those who received equivalency certificates; some college includes those who received associate's degrees; bachelor's degrees includes those who received advanced degrees.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Table 32-2 Median annual earnings of wage and salary workers, by sex, educational attainment, and race/ethnicity: 1991

| Race/ ethnicity and age | Male | | | | | Female | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Grade 8 or less | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree | Grade 8 or less | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree |
| **All wage and salary workers** | | | | | | | | | | |
| Total | | | | | | | | | | |
| 25–34 | $10,315 | $13,046 | $20,063 | $22,514 | $30,882 | $8,594 | $7,405 | $12,263 | $15,958 | $23,016 |
| 35–44 | 13,495 | 16,663 | 25,214 | 30,571 | 41,571 | 8,176 | 9,493 | 14,125 | 17,930 | 26,791 |
| 45–54 | 14,974 | 20,827 | 28,538 | 34,905 | 46,120 | 8,647 | 12,047 | 15,000 | 19,266 | 28,997 |
| 55–64 | 16,485 | 20,451 | 26,001 | 30,357 | 41,774 | 8,692 | 10,048 | 12,906 | 17,117 | 27,198 |
| White | | | | | | | | | | |
| 25–34 | 9,580 | 15,054 | 21,389 | 24,221 | 31,352 | 9,997 | 7,869 | 12,486 | 16,433 | 23,510 |
| 35–44 | 15,900 | 18,418 | 26,213 | 31,255 | 42,149 | 8,111 | 10,034 | 14,217 | 17,918 | 26,612 |
| 45–54 | 17,487 | 22,293 | 30,387 | 35,614 | 47,314 | 9,454 | 11,885 | 15,119 | 19,048 | 29,232 |
| 55–64 | 17,724 | 22,086 | 26,557 | 31,112 | 43,388 | 8,804 | 10,290 | 13,008 | 16,811 | 26,393 |
| Black | | | | | | | | | | |
| 25–34 | — | 10,282 | 15,102 | 17,214 | 24,499 | — | 5,714 | 10,816 | 14,134 | 20,907 |
| 35–44 | — | 12,955 | 16,909 | 26,558 | 36,359 | — | 9,156 | 14,310 | 18,694 | 28,100 |
| 45–54 | 11,493 | 15,440 | 21,771 | 26,807 | 32,069 | — | 12,856 | 14,393 | 22,142 | 28,667 |
| 55–64 | 16,258 | 16,216 | 20,833 | — | — | — | 8,219 | 12,389 | 18,560 | — |
| Hispanic | | | | | | | | | | |
| 25–34 | 11,039 | 13,306 | 15,766 | 19,874 | 25,591 | 8,615 | 6,867 | 11,882 | 14,791 | 20,375 |
| 35–44 | 12,409 | 16,346 | 20,656 | 25,733 | 38,325 | 8,086 | — | 12,487 | 17,776 | 28,119 |
| 45–54 | 12,349 | — | 20,293 | 29,114 | — | 7,220 | — | 13,819 | — | — |
| 55–64 | 14,669 | — | — | — | — | — | — | — | — | — |
| **Full-time, full-year workers** | | | | | | | | | | |
| Total | | | | | | | | | | |
| 25–34 | $14,257 | $17,876 | $22,375 | $26,352 | $35,021 | $11,530 | $12,163 | $17,196 | $20,327 | $26,866 |
| 35–44 | 16,609 | 20,677 | 27,308 | 32,898 | 43,695 | 11,527 | 13,875 | 18,364 | 22,356 | 31,145 |
| 45–54 | 18,770 | 22,296 | 31,555 | 36,684 | 47,972 | 11,569 | 14,785 | 19,057 | 23,702 | 32,091 |
| 55–64 | 20,944 | 25,092 | 30,436 | 33,336 | 50,213 | 12,821 | 14,097 | 18,517 | 22,105 | 32,289 |
| White | | | | | | | | | | |
| 25–34 | 15,879 | 20,117 | 23,796 | 26,907 | 35,484 | — | 12,446 | 17,589 | 20,918 | 27,287 |
| 35–44 | 20,360 | 22,486 | 28,619 | 33,998 | 45,074 | — | 14,507 | 18,581 | 22,839 | 31,221 |
| 45–54 | 20,575 | 24,699 | 32,478 | 37,171 | 49,792 | — | 14,559 | 19,344 | 23,687 | 32,461 |
| 55–64 | 21,341 | 25,786 | 30,839 | 35,351 | 53,440 | — | 15,451 | 18,838 | 22,429 | 32,003 |
| Black | | | | | | | | | | |
| 25–34 | — | 13,304 | 17,156 | 21,407 | 28,299 | — | 10,275 | 15,676 | 18,151 | 22,959 |
| 35–44 | — | 18,293 | 21,830 | 30,302 | 38,679 | — | 13,465 | 17,556 | 20,957 | 30,400 |
| 45–54 | — | 17,131 | 25,123 | 31,493 | 35,075 | — | 15,283 | 18,049 | 25,576 | 30,275 |
| 55–64 | — | 25,183 | 23,513 | — | — | — | — | 16,786 | — | — |
| Hispanic | | | | | | | | | | |
| 25–34 | 12,914 | 15,990 | 18,575 | 25,167 | 33,692 | — | — | 16,161 | 19,047 | 24,150 |
| 35–44 | 14,729 | — | 22,813 | 28,233 | 40,610 | — | — | 17,110 | 22,542 | — |
| 45–54 | 15,508 | — | 24,115 | — | — | — | — | 17,498 | — | — |
| 55–64 | — | — | — | — | — | — | — | — | — | — |

— Too few sample observations for a reliable estimate.

NOTE: Grades 9 to 11 includes those who attended grade 12 but did not receive a diploma; high school diploma includes those who received equivalency certificates; some college includes those who received associate's degrees; bachelor's degrees include those who received advanced degrees.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Table 32-3 Standard errors for estimated percentages in table 32-1

| Race/ethnicity and age | Male | | | | Female | | | |
|---|---|---|---|---|---|---|---|---|
| | Grade 8 or less | Grades 9 to 11 | Some college | Bachelor's degree | Grade 8 or less | Grades 9 to 11 | Some college | Bachelor's degree |
| | | | | **All wage and salary workers** | | | | |
| Total | | | | | | | | |
| 25–34 | 3.7 | 3.4 | 2.9 | 3.0 | 5.3 | 5.4 | 3.3 | 4.4 |
| 35–44 | 4.1 | 3.1 | 2.4 | 3.1 | 5.7 | 4.6 | 4.7 | 5.5 |
| 45–54 | 4.2 | 3.4 | 5.2 | 6.0 | 3.6 | 3.5 | 6.1 | 7.7 |
| 55–64 | 5.1 | 4.8 | 5.9 | 6.5 | 9.3 | 7.3 | 9.0 | 15.7 |
| White | | | | | | | | |
| 25–34 | 9.4 | 4.4 | 3.7 | 2.8 | 10.9 | 6.0 | 4.3 | 5.8 |
| 35–44 | 5.1 | 5.9 | 2.3 | 3.2 | 8.3 | 5.6 | 5.3 | 6.1 |
| 45–54 | 4.9 | 3.4 | 2.8 | 4.4 | 7.2 | 4.3 | 6.6 | 7.8 |
| 55–64 | 6.1 | 4.7 | 4.6 | 10.8 | 13.2 | 9.5 | 10.0 | 16.2 |
| Black | | | | | | | | |
| 25–34 | — | 6.0 | 8.6 | 14.9 | — | 16.2 | 10.8 | 14.6 |
| 35–44 | — | 10.5 | 11.9 | 16.5 | — | 8.3 | 11.4 | 16.6 |
| 45–54 | 11.5 | 6.4 | 16.5 | 18.0 | — | 11.1 | 22.9 | 24.0 |
| 55–64 | 15.6 | 12.5 | — | — | — | 15.4 | 18.1 | — |
| Hispanic | | | | | | | | |
| 25–34 | 7.0 | 11.1 | 19.3 | 32.3 | 7.6 | 14.3 | 16.7 | 23.8 |
| 35–44 | 5.1 | 9.6 | 11.3 | 21.4 | 10.4 | — | 24.7 | 27.7 |
| 45–54 | 11.1 | — | 28.1 | — | 11.8 | — | — | — |
| 55–64 | — | — | — | — | — | — | — | — |
| | | | | **Full-time, full-year workers** | | | | |
| Total | | | | | | | | |
| 25–34 | 5.5 | 3.4 | 2.4 | 4.0 | 6.6 | 2.2 | 2.6 | 3.4 |
| 35–44 | 3.2 | 3.1 | 3.0 | 4.6 | 5.5 | 5.2 | 3.9 | 4.8 |
| 45–54 | 3.1 | 3.6 | 2.4 | 4.4 | 4.7 | 4.0 | 4.7 | 4.8 |
| 55–64 | 2.5 | 4.3 | 6.0 | 9.0 | 5.6 | 6.0 | 6.9 | 10.1 |
| White | | | | | | | | |
| 25–34 | 4.0 | 3.4 | 2.6 | 3.9 | — | 3.7 | 2.9 | 4.1 |
| 35–44 | 6.4 | 5.0 | 3.7 | 4.6 | — | 5.5 | 4.7 | 4.8 |
| 45–54 | 4.7 | 4.7 | 3.5 | 6.1 | — | 5.0 | 4.8 | 5.9 |
| 55–64 | 2.9 | 4.2 | 5.9 | 9.6 | — | 5.5 | 8.8 | 9.4 |
| Black | | | | | | | | |
| 25–34 | — | 6.8 | 7.4 | 13.5 | — | 7.5 | 7.1 | 11.3 |
| 35–44 | — | 8.3 | 12.8 | 17.5 | — | 13.3 | 12.2 | 19.6 |
| 45–54 | — | 10.3 | 17.5 | 16.4 | — | 8.4 | 16.0 | 15.3 |
| 55–64 | — | 24.1 | — | — | — | — | — | — |
| Hispanic | | | | | | | | |
| 25–34 | 8.3 | 9.3 | 14.5 | 23.2 | — | — | 13.4 | 14.0 |
| 35–44 | 7.0 | — | 12.5 | 18.3 | — | — | 18.7 | — |
| 45–54 | 13.1 | — | — | — | — | — | — | — |
| 55–64 | — | — | — | — | — | — | — | — |

— Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

## Table 32-4 Standard errors for estimated percentages in table 32-2

| Race/ ethnicity and age | Male | | | | | Female | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Grade 8 or less | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree | Grade 8 or less | Grades 9 to 11 | High school diploma | Some college | Bachelor's degree |
| **All wage and salary workers** | | | | | | | | | | |
| Total | | | | | | | | | | |
| 25–34 | $724 | $649 | $310 | $478 | $374 | $644 | $662 | $128 | $363 | $477 |
| 35–44 | 1,021 | 728 | 390 | 378 | 443 | 785 | 603 | 336 | 511 | 444 |
| 45–54 | 1,110 | 694 | 925 | 942 | 832 | 495 | 428 | 386 | 762 | 876 |
| 55–64 | 1,238 | 1,124 | 693 | 1,318 | 1,259 | 1,143 | 849 | 543 | 910 | 1,672 |
| White | | | | | | | | | | |
| 25–34 | 2,008 | 919 | 313 | 697 | 391 | 1,351 | 735 | 262 | 409 | 523 |
| 35–44 | 1,307 | 1,532 | 365 | 428 | 590 | 1,161 | 741 | 385 | 578 | 484 |
| 45–54 | 1,463 | 962 | 542 | 555 | 1,046 | 1,054 | 569 | 405 | 854 | 880 |
| 55–64 | 1,543 | 1,105 | 707 | 884 | 2,612 | 1,663 | 1,143 | 614 | 1,024 | 1,699 |
| Black | | | | | | | | | | |
| 25–34 | — | 773 | 708 | 1,011 | 1,931 | — | 1,724 | 631 | 826 | 1,007 |
| 35–44 | — | 1,574 | 1,063 | 1,126 | 1,610 | — | 1,049 | 873 | 1,170 | 1,653 |
| 45–54 | 2,429 | 1,173 | 1,087 | 3,335 | 3,566 | — | 924 | 1,451 | 2,418 | 1,890 |
| 55–64 | 2,754 | 1,938 | 2,218 | — | — | — | 1,671 | 1,375 | 881 | — |
| Hispanic | | | | | | | | | | |
| 25–34 | 828 | 1,508 | 1,054 | 2,732 | 4,795 | 627 | 1,618 | 888 | 1,644 | 2,377 |
| 35–44 | 672 | 1,681 | 1,354 | 1,601 | 3,625 | 1,068 | — | 1,138 | 2,624 | 2,320 |
| 45–54 | 1,333 | — | 2,985 | 3,752 | — | 1,355 | — | 1,731 | — | — |
| 55–64 | 2,455 | — | — | — | — | — | — | — | — | — |
| **Full-time, full-year workers** | | | | | | | | | | |
| Total | | | | | | | | | | |
| 25–34 | $1,219 | $721 | $343 | $364 | $729 | $1,126 | $320 | $268 | $305 | $413 |
| 35–44 | 835 | 797 | 391 | 658 | 1,088 | 969 | 883 | 465 | 428 | 387 |
| 45–54 | 943 | 1,078 | 459 | 529 | 1,206 | 855 | 683 | 430 | 722 | 571 |
| 55–64 | 647 | 1,222 | 612 | 1,696 | 2,536 | 948 | 1,015 | 585 | 1,062 | 1,575 |
| White | | | | | | | | | | |
| 25–34 | 897 | 703 | 451 | 367 | 632 | — | 607 | 328 | 334 | 505 |
| 35–44 | 1,793 | 1,346 | 602 | 769 | 918 | — | 958 | 473 | 646 | 401 |
| 45–54 | 1,452 | 1,409 | 783 | 674 | 1,573 | — | 900 | 466 | 741 | 837 |
| 55–64 | 803 | 1,219 | 559 | 1,701 | 2,785 | — | 899 | 624 | 1,475 | 1,419 |
| Black | | | | | | | | | | |
| 25–34 | — | 1,055 | 646 | 977 | 2,054 | — | 1,076 | 703 | 770 | 1,443 |
| 35–44 | — | 995 | 1,801 | 1,230 | 2,088 | — | 1,945 | 1,671 | 758 | 1,868 |
| 45–54 | — | 2,279 | 1,784 | 3,793 | 3,272 | — | 1,249 | 1,013 | 2,515 | 2,175 |
| 55–64 | — | 3,590 | 4,107 | — | — | — | — | 1,526 | — | — |
| Hispanic | | | | | | | | | | |
| 25–34 | 1,104 | 1,109 | 1,547 | 1,698 | 3,262 | — | — | 1,020 | 1,800 | 1,665 |
| 35–44 | 1,169 | — | 1,674 | 1,965 | 2,908 | — | — | 1,642 | 2,361 | — |
| 45–54 | 2,237 | — | 3,462 | — | — | — | — | 2,888 | — | — |
| 55–64 | — | — | — | — | — | — | — | — | — | — |

— Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1992.

**Table 33-1** **Median salaries of college graduates with selected characteristics as a percent of the median salary of all college graduates working full-time and not enrolled in college one year after graduation, by field of study, sex, and race/ethnicity: Seleced years of graduation 1977–90**

| Field of study, sex, and race/ethnicity | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| Field of study | | | | | |
| Humanities and social/behavioral sciences | 87.0 | 86.7 | 84.8 | 87.1 | 89.1 |
| Humanities | 79.7 | 84.6 | 81.4 | 82.9 | 86.2 |
| Social and behavioral sciences | 89.4 | 88.6 | 87.4 | 91.2 | 90.6 |
| Natural and computer sciences and engineering | 124.5 | 140.6 | 134.3 | 124.7 | 131.4 |
| Natural sciences | 98.2 | 99.2 | 95.0 | 93.8 | 98.2 |
| Computer science and engineering | 146.4 | 161.2 | 144.8 | 134.3 | 141.0 |
| Technical/professinal | 100.1 | 99.5 | 97.6 | 97.1 | 99.3 |
| Education | 85.9 | 81.4 | 79.9 | 81.4 | 88.3 |
| Business | 114.4 | 113.2 | 104.8 | 102.6 | 104.8 |
| Other technical/professional | 102.8 | 106.8 | 98.7 | 97.1 | 102.2 |
| Sex | | | | | |
| Men | 112.9 | 114.7 | 110.6 | 108.4 | 108.9 |
| Women | 86.9 | 88.5 | 91.0 | 92.1 | 94.2 |
| Race/ethnicity | | | | | |
| White | 100.3 | 100.6 | 100.3 | 99.9 | 99.7 |
| Black | 92.4 | 93.7 | 89.2 | 90.5 | 95.6 |
| Hispanic | 103.4 | 109.5 | 103.8 | 100.7 | 102.1 |
| Asian | 112.0 | 94.9 | 105.8 | 111.7 | 114.4 |
| American Indian | — | — | — | 101.3 | 97.2 |

— Too few cases for a reliable estimate.

NOTE: Estimates for 1977 through 1986 differ from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Table 33-2 Median salaries in 1992 dollars of college graduates who are working full-time and not enrolled in college one year after graduation, by field of study, sex, and race/ethnicity: Selected years of graduation 1977–90

| Field of study, sex, and race/ethnicity | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| **Total college graduates** | **$24,899** | **$22,967** | **$23,491** | **$25,040** | **$23,718** |
| Field of study | | | | | |
| Humanities and social/behavioral sciences | 21,673 | 19,905 | 19,918 | 21,797 | 21,126 |
| Humanities | 19,843 | 19,420 | 19,130 | 20,759 | 20,446 |
| Social and behavioral sciences | 22,251 | 20,350 | 20,530 | 22,843 | 21,485 |
| Natural and computer sciences and engineering | 30,997 | 32,290 | 31,555 | 31,237 | 31,163 |
| Natural sciences | 24,441 | 22,784 | 22,317 | 23,485 | 23,288 |
| Computer science and engineering | 36,463 | 36,972 | 34,004 | 33,621 | 33,437 |
| Technical/professional | 24,915 | 22,863 | 22,933 | 24,320 | 23,555 |
| Education | 21,378 | 18,701 | 18,759 | 20,377 | 20,954 |
| Business | 28,482 | 25,995 | 24,609 | 25,686 | 24,864 |
| Other technical/professional | 25,592 | 24,528 | 23,186 | 24,302 | 24,241 |
| Sex | | | | | |
| Men | 28,108 | 26,334 | 25,974 | 27,153 | 25,825 |
| Women | 21,649 | 20,318 | 21,387 | 23,054 | 22,343 |
| Race/ethnicity | | | | | |
| White | 24,975 | 23,105 | 23,556 | 25,021 | 23,637 |
| Black | 23,018 | 21,515 | 20,955 | 22,653 | 22,676 |
| Hispanic | 25,740 | 25,149 | 24,378 | 25,227 | 24,210 |
| Asian | 27,896 | 21,797 | 24,857 | 27,973 | 27,136 |
| American Indian | — | — | — | 25,367 | 23,064 |

— Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

### Table 33-3 Percentage distribution of college graduates who are working full-time and are not enrolled in college one year after graduation, by field of study, sex, and race/ethnicity: Selected years of graduation 1977–90

| Field of study, sex, and race/ethnicity | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| Field of study | | | | | |
| Humanities | 8.2 | 9.1 | 9.0 | 7.4 | 9.2 |
| Social/behavioral sciences | 14.7 | 11.9 | 11.7 | 10.3 | 14.0 |
| Natural sciences | 7.5 | 7.1 | 5.6 | 5.3 | 4.8 |
| Computer science and engineering | 9.1 | 9.6 | 15.8 | 17.3 | 12.2 |
| Education | 17.9 | 14.3 | 9.6 | 8.9 | 9.7 |
| Business | 24.0 | 25.3 | 28.5 | 31.8 | 28.5 |
| Other technical/professional | 18.5 | 22.6 | 19.7 | 19.0 | 21.6 |
| Sex | | | | | |
| Men | 57.1 | 51.2 | 50.5 | 49.6 | 48.2 |
| Women | 42.9 | 48.8 | 49.5 | 50.4 | 51.8 |
| Race/ethnicity | | | | | |
| White | 90.2 | 92.1 | 90.0 | 88.9 | 86.6 |
| Black | 6.1 | 5.2 | 4.9 | 3.9 | 6.1 |
| Hispanic | 1.5 | 1.4 | 2.3 | 3.3 | 3.5 |
| Asian | 1.6 | 1.0 | 2.4 | 2.0 | 3.3 |
| American Indian | 0.2 | 0.4 | 0.4 | 0.8 | 0.5 |
| Other | 0.4 | — | — | 1.1 | 0.0 |

— Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Table 33-4 Standard errors for estimated percentages in table 33-1

| Field of study, sex, and race/ethnicity | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| Field of study | | | | | |
| Humanities and social/behavioral sciences | 1.7 | 1.4 | 1.6 | 1.1 | 1.3 |
| Humanities | 3.4 | 1.9 | 2.4 | 1.5 | 2.4 |
| Social and behavioral sciences | 1.8 | 1.8 | 2.3 | 1.8 | 1.6 |
| Natural and computer sciences and engineering | 3.7 | 4.0 | 2.3 | 1.6 | 2.4 |
| Natural sciences | 3.1 | 4.1 | 3.1 | 2.2 | 3.1 |
| Computer science and engineering | 2.9 | 2.9 | 1.9 | 1.5 | 1.8 |
| Technical/professional | 1.2 | 1.0 | 0.9 | 0.5 | 0.7 |
| Education | 1.3 | 1.2 | 1.8 | 1.2 | 1.6 |
| Business | 1.6 | 1.8 | 1.4 | 0.8 | 1.6 |
| Other technical/professional | 2.8 | 2.2 | 1.7 | 1.2 | 2.1 |
| Sex | | | | | |
| Men | 1.1 | 1.5 | 1.2 | 0.7 | 1.3 |
| Women | 1.1 | 1.0 | 1.0 | 0.6 | 0.8 |
| Race/ethnicity | | | | | |
| White | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 |
| Black | 4.5 | 3.4 | 4.4 | 3.0 | 3.0 |
| Hispanic | 6.7 | 14.3 | 5.3 | 2.6 | 3.6 |
| Asian | 11.3 | 9.9 | 5.7 | 3.4 | 4.2 |
| American Indian | — | — | — | 7.4 | 7.1 |
| Other | | | | | |

— Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Table 33-5 Standard errors for estimated median salaries in table 33-2

| Field of study, sex, and race/ethnicity | 1977 | 1980 | 1984 | 1986 | 1990 |
|---|---|---|---|---|---|
| **Total college graduates** | **$304** | **$264** | **$208** | **$139** | **$159** |
| Field of study | | | | | |
| Humanities and social/behavioral sciences | 400 | 293 | 361 | 273 | 309 |
| Humanities | 831 | 402 | 563 | 359 | 561 |
| Social and behavioral sciences | 409 | 364 | 526 | 449 | 367 |
| Natural and computer sciences and engineering | 890 | 902 | 534 | 411 | 555 |
| Natural sciences | 741 | 925 | 717 | 547 | 736 |
| Computer science and engineering | 594 | 548 | 389 | 370 | 387 |
| Technical/professional | 369 | 289 | 235 | 153 | 191 |
| Education | 244 | 214 | 397 | 280 | 373 |
| Business | 292 | 386 | 306 | 203 | 382 |
| Other technical/professional | 689 | 484 | 386 | 297 | 502 |
| Sex | | | | | |
| Men | 202 | 384 | 311 | 184 | 345 |
| Women | 236 | 201 | 262 | 180 | 213 |
| Race/ethnicity | | | | | |
| White | 322 | 279 | 220 | 149 | 170 |
| Black | 1,106 | 743 | 1,032 | 738 | 713 |
| Hispanic | 1,634 | 3,278 | 1,227 | 639 | 850 |
| Asian | 2,808 | 2,252 | 1,323 | 838 | 989 |
| American Indian | — | — | — | 1,856 | 1,676 |

— Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates surveys.

## Table 34-1 Education and labor market outcomes of 25- to 33-year-olds with no more than 2 years of college attendance, by high school completion status and age at time of completion: 1990

| | Males | | | | | Females | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not completed | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not completed |
| Percent distribution | 65 | 5 | 5 | 7 | 18 | 70 | 3 | 5 | 6 | 15 |
| | | | | | | **Education outcomes** | | | | |
| Average AFQT percentile score in 1980[1] | 45 | 25 | 40 | 33 | 20 | 43 | 22 | 42 | 30 | 20 |
| 25th percentile | 23 | 5 | 18 | 13 | 5 | 23 | 7 | 24 | 14 | 5 |
| Median | 44 | 17 | 36 | 28 | 12 | 39 | 11 | 42 | 26 | 12 |
| 75th percentile | 64 | 40 | 59 | 45 | 27 | 58 | 33 | 55 | 40 | 27 |
| Percent who attended: | | | | | | | | | | |
| 2nd year of high school | — | — | 96 | 94 | 84 | — | — | 97 | 93 | 84 |
| 3rd year of high school | — | — | 88 | 85 | 60 | — | — | 90 | 73 | 62 |
| 4th year of high school | — | — | 74 | 59 | 34 | — | — | 69 | 53 | 31 |
| 1st of college | 44 | 30 | 46 | 31 | 5 | 46 | 25 | 50 | 33 | 8 |
| 2nd year of college | 18 | 12 | 15 | 9 | 1 | 18 | 5 | 16 | 9 | 2 |
| Percent receiving: Associate's degree | 5 | 2 | 5 | 1 | 0 | 6 | 3 | 1 | 0 | 1 |
| | | | | | | **Labor market outcomes[2]** | | | | |
| Percent employed | 94 | 91 | 83 | 87 | 86 | 76 | 63 | 69 | 64 | 52 |
| Percent unemployed | 4 | 7 | 7 | 9 | 7 | 4 | 9 | 5 | 9 | 9 |
| Average weeks worked in 1990 | 48 | 46 | 36 | 39 | 41 | 37 | 29 | 35 | 30 | 23 |
| Average years on current job | 4 | 4 | 2 | 2 | 3 | 4 | 3 | 3 | 2 | 2 |
| Average annual earnings | 25,048 | 20,202 | 19,066 | 18,069 | 17,822 | 15,415 | 13,103 | 13,955 | 11,929 | 9,895 |
| 25th percentile | 16,379 | 12,719 | 8,987 | 8,913 | 10,350 | 8,681 | 6,426 | 8,063 | 6,053 | 3,385 |
| Median | 24,427 | 19,261 | 18,146 | 15,998 | 16,655 | 14,217 | 12,379 | 13,772 | 12,159 | 8,925 |
| 75th percentile | 31,727 | 26,732 | 26,775 | 23,803 | 24,291 | 20,775 | 17,298 | 20,388 | 16,954 | 14,349 |
| Percent below the poverty line | 4 | 9 | 18 | 23 | 21 | 12 | 26 | 14 | 24 | 36 |

—Not applicable.

[1] Scores on the Armed Forces Qualification Test (AFQT). The AFQT is a general measure of ability to benefit from training and a primary criterion of enlistment eligibility for the U.S. Armed Forces.

[2] Excluded were anyone in the military, self-employed, enrolled in college full-time, or having a health condition that would prevent them from working.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth, 1990.

## Table 34-2 Standard errors for estimated averages and percentages in table 34-1

| | Males | | | | | Females | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not completed | Diploma before age 20 | Diploma age 20 or after | GED before age 20 | GED age 20 or after | Not completed |
| Percent distribution | 1.3 | 0.3 | 0.6 | 0.6 | 0.8 | 1.1 | 0.4 | 0.4 | 0.5 | 0.8 |
| | | | | | **Education outcomes** | | | | | |
| Average AFQT percentile score in 1980 | 0.8 | 1.9 | 2.1 | 1.9 | 0.9 | 0.8 | 2.6 | 2.2 | 1.6 | 0.9 |
| 25th percentile | 0.6 | 1.6 | 2.9 | 2.1 | 0.5 | 0.9 | 2.0 | 1.6 | 2.2 | 0.6 |
| Median | 1.2 | 2.7 | 2.6 | 3.0 | 1.0 | 0.9 | 2.1 | 5.0 | 1.6 | 1.0 |
| 75th percentile | 0.9 | 4.0 | 3.5 | 2.7 | 2.3 | 0.9 | 5.7 | 1.6 | 2.6 | 2.0 |
| Percent who attended: | | | | | | | | | | |
| 2nd year of high school | — | — | 2.1 | 1.7 | 1.6 | — | — | 1.7 | 2.3 | 1.9 |
| 3rd year of high school | — | — | 3.1 | 2.6 | 2.4 | — | — | 2.6 | 3.4 | 2.3 |
| 4th year of high school | — | — | 4.0 | 4.1 | 2.0 | — | — | 4.3 | 3.3 | 2.3 |
| 1st of college | 1.5 | 4.5 | 4.1 | 4.4 | 0.9 | 1.5 | 4.4 | 4.8 | 3.3 | 1.4 |
| 2nd year of college | 0.9 | 2.9 | 3.1 | 2.3 | 0.5 | 1.1 | 1.6 | 3.8 | 2.3 | 0.8 |
| Percent receiving: | | | | | | | | | | |
| Associate's degree | 0.7 | 1.2 | 2.4 | 0.4 | 0.3 | 0.7 | 2.2 | 0.4 | 0.0 | 0.5 |
| | | | | | **Labor market outcomes** | | | | | |
| Percent employed | 0.8 | 2.4 | 4.2 | 2.7 | 1.5 | 1.3 | 6.5 | 4.6 | 4.2 | 2.7 |
| Percent unemployed | 0.6 | 2.2 | 2.6 | 2.0 | 0.9 | 0.5 | 3.4 | 2.1 | 2.6 | 1.6 |
| Average weeks worked in 1990 | 0.3 | 1.3 | 1.6 | 1.5 | 0.8 | 0.7 | 2.9 | 1.8 | 1.8 | 1.2 |
| Average years on current job | 0.1 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.5 | 0.3 | 0.4 | 0.1 |
| Average annual earnings | 472.2 | 1,120.9 | 1,391.5 | 1,371.8 | 583.9 | 398.0 | 1,324.2 | 1,027.8 | 862.5 | 511.9 |
| 25th percentile | 474.2 | 1,038.3 | 1,645.5 | 1,622.4 | 809.0 | 376.6 | 2,925.9 | 1,387.3 | 957.2 | 868.2 |
| Median | 630.4 | 1,982.4 | 1,501.3 | 917.2 | 732.8 | 261.9 | 1,417.7 | 1,255.5 | 1,218.0 | 666.4 |
| 75th percentile | 523.0 | 1,862.9 | 2,076.0 | 2,328.6 | 1,368.0 | 438.8 | 3,015.8 | 1,501.5 | 1,393.7 | 691.3 |
| Percent below the poverty line | 0.7 | 2.6 | 3.8 | 3.1 | 2.1 | 1.0 | 5.2 | 3.3 | 4.1 | 3.0 |

—Not applicable.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth, 1990.

## Table 35-1 Percentage of population with limited activity due to a chronic condition; by years of schooling completed, income, and age: 1989

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| | | | **25- to 44-year-olds** | | |
| **Total** | **10.0** | **16.4** | **10.0** | **9.4** | **6.3** |
| Less than $5,000 | 28.1 | 33.4 | 25.1 | 30.0 | (2) |
| 5–9,999 | 23.2 | 27.5 | 19.2 | 21.5 | 20.2 |
| 10–14,999 | 16.9 | 16.4 | 14.9 | 19.8 | 11.0 |
| 15–24,999 | 11.2 | 15.1 | 11.4 | 10.7 | 8.3 |
| 25–34,999 | 8.4 | 12.2 | 8.0 | 8.5 | 6.5 |
| 35–49,999 | 6.9 | 5.8 | 7.6 | 7.7 | 4.8 |
| 50,000 or more | 6.3 | 9.3 | 7.5 | 5.7 | 5.8 |
| | | | **45- to 64-year-olds** | | |
| **Total** | **22.2** | **32.1** | **19.2** | **18.8** | **13.2** |
| Less than $5,000 | 63.2 | 73.3 | 54.4 | 51.0 | (2) |
| 5–9,999 | 52.1 | 51.5 | 44.0 | 45.1 | (2) |
| 10–14,999 | 36.2 | 42.0 | 29.6 | 29.6 | (2) |
| 15–24,999 | 27.4 | 32.4 | 24.3 | 24.6 | 32.3 |
| 25–34,999 | 19.7 | 24.5 | 17.5 | 20.9 | 16.3 |
| 35–49,999 | 14.8 | 15.9 | 13.7 | 18.1 | 14.2 |
| 50,000 or more | 11.7 | 16.4 | 11.7 | 12.3 | 9.9 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-2 Percentage of population who were assessed by themselves or members of their household as being in fair or poor health; by years of schooling completed, income, and age: 1989

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| | | | **25- to 44-year-olds** | | |
| **Total** | **6.4** | **15.0** | **6.7** | **4.8** | **1.9** |
| Less than $5,000 | 24.3 | 32.2 | 25.4 | 15.6 | (2) |
| 5–9,999 | 20.8 | 27.7 | 20.0 | 12.8 | 5.4 |
| 10–14,999 | 12.0 | 12.9 | 9.9 | 12.1 | 4.6 |
| 15–24,999 | 7.3 | 13.8 | 6.8 | 6.1 | 2.3 |
| 25–34,999 | 4.9 | 9.6 | 4.7 | 4.4 | 2.6 |
| 35–49,999 | 3.2 | 5.9 | 4.0 | 3.3 | 1.2 |
| 50,000 or more | 2.3 | 7.8 | 3.3 | 2.1 | 1.3 |
| | | | **45- to 64-year-olds** | | |
| **Total** | **16.1** | **26.5** | **13.2** | **10.0** | **5.0** |
| Less than $5,000 | 57.5 | 59.6 | 46.1 | 53.4 | (2) |
| 5–9,999 | 45.7 | 48.3 | 35.6 | 25.6 | (2) |
| 10–14,999 | 29.8 | 31.8 | 22.9 | 15.9 | (2) |
| 15–24,999 | 20.2 | 25.0 | 16.0 | 15.4 | 12.8 |
| 25–34,999 | 13.1 | 20.0 | 12.1 | 9.1 | 6.8 |
| 35–49,999 | 8.8 | 14.9 | 8.0 | 9.2 | 5.0 |
| 50,000 or more | 5.2 | 12.2 | 6.5 | 4.1 | 2.8 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-3 Percentage of 25- to 64-year-olds who were not covered by private health insurance or Medicare, by years of schooling completed and income: 1989

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| **Total** | **22.8** | **38.4** | **22.2** | **17.8** | **10.8** |
| Less than $5,000 | 78.0 | 83.0 | 76.6 | 69.5 | (2) |
| 5–9,999 | 66.7 | 72.9 | 63.6 | 67.2 | (2) |
| 10–14,999 | 47.5 | 49.7 | 45.2 | 48.1 | (2) |
| 15–24,999 | 26.2 | 32.5 | 24.6 | 25.3 | 17.3 |
| 25–34,999 | 12.7 | 18.7 | 12.7 | 11.2 | 9.8 |
| 35–49,999 | 8.8 | 12.8 | 8.6 | 7.9 | 8.3 |
| 50,000 or more | 7.2 | 9.6 | 7.8 | 6.2 | 6.7 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-4 Percentage of persons having given health conditions, knowledge or behaviors, by years of schooling completed and age: 1985

| Age | Total* | Less than 4 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| | | | **Twenty percent or more above desirable body weight** | | |
| 18 to 29 | 14.0 | 17.3 | 14.3 | 13.5 | 10.2 |
| 30 to 44 | 31.6 | 31.6 | 27.7 | 23.1 | 18.2 |
| 45 to 64 | 32.9 | 33.5 | 33.0 | 26.2 | 27.4 |
| | | | **Aware that high blood pressure increases the chance of getting heart disease** | | |
| 18 to 29 | 92.7 | 85.6 | 92.4 | 95.9 | 96.5 |
| 30 to 44 | 93.2 | 84.1 | 93.3 | 95.3 | 96.5 |
| 45 to 64 | 91.6 | 86.0 | 92.7 | 95.5 | 96.0 |
| | | | **Exercised or played sports regularly** | | |
| 18 to 29 | 52.6 | 40.1 | 49.2 | 60.5 | 63.5 |
| 30 to 44 | 41.6 | 22.8 | 35.4 | 45.8 | 57.4 |
| 45 to 64 | 31.1 | 17.7 | 29.1 | 42.9 | 49.3 |
| | | | **Currently smoked cigarettes** | | |
| 18 to 29 | 32.0 | 49.0 | 37.0 | 21.2 | 16.0 |
| 30 to 44 | 34.5 | 52.0 | 38.7 | 33.9 | 19.4 |
| 45 to 64 | 31.6 | 38.5 | 26.5 | 32.8 | 20.8 |
| | | | **Exposed to at least one job-related health hazard in current job** | | |
| 18 to 29 | 62.7 | 64.6 | 66.3 | 60.6 | 54.2 |
| 30 to 44 | 61.7 | 69.1 | 63.5 | 62.0 | 56.1 |
| 45 to 64 | 56.3 | 63.4 | 56.1 | 56.2 | 48.8 |

*Includes individuals with unknown years of schooling.

SOURCE: National Center for Health Statistics, National Health Interview Survey of Health Promotion and Disease Prevention, 1985.

## Table 35-5 Standard errors for estimated percentages in text table for *Indicator 35*

| Age | Total* | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| | | | **Limited activity due to a chronic condition** | | |
| 25- to 44 | 0.2 | 0.9 | 0.3 | 0.4 | 0.3 |
| 45- to 64 | 0.4 | 1.1 | 0.6 | 0.9 | 0.7 |
| | | | **Assessed as being in fair or poor health** | | |
| 25- to 44 | 0.2 | 0.8 | 0.3 | 0.3 | 0.2 |
| 45- to 64 | 0.3 | 1.1 | 0.5 | 0.7 | 0.4 |
| | | | **Not covered by private health insurance or Medicare** | | |
| 1982 | 0.4 | 1.6 | 0.5 | 0.5 | 0.6 |
| 1984 | 0.3 | 1.3 | 0.4 | 0.6 | 0.7 |
| 1986 | 0.5 | 1.6 | 0.7 | 1.0 | 0.6 |
| 1989 | 0.2 | 0.8 | 0.4 | 0.5 | 0.3 |

*Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-6 Standard errors for estimated percentages in table 35-1

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| | | | **25- to 44-year-olds** | | |
| **Total** | **0.2** | **0.9** | **0.3** | **0.4** | **0.3** |
| Less than $5,000 | 2.0 | 4.2 | 3.1 | 5.3 | (2) |
| 5–9,999 | 1.4 | 3.0 | 2.0 | 3.5 | 4.7 |
| 10–14,999 | 1.0 | 2.5 | 1.5 | 2.6 | 2.8 |
| 15–24,999 | 0.5 | 1.7 | 0.8 | 1.1 | 1.2 |
| 25–34,999 | 0.4 | 1.9 | 0.7 | 0.9 | 0.9 |
| 35–49,999 | 0.4 | 1.7 | 1.0 | 0.8 | 0.5 |
| 50,000 or more | 0.4 | 3.1 | 0.9 | 0.7 | 0.5 |
| | | | **45- to 64-year-olds** | | |
| **Total** | **0.4** | **1.1** | **0.6** | **0.9** | **0.7** |
| Less than $5,000 | 2.8 | 5.0 | 5.9 | 9.8 | (2) |
| 5–9,999 | 2.0 | 4.0 | 3.7 | 7.8 | (2) |
| 10–14,999 | 1.7 | 3.7 | 2.7 | 5.3 | (2) |
| 15–24,999 | 1.0 | 2.5 | 1.4 | 2.8 | 3.9 |
| 25–34,999 | 0.9 | 2.7 | 1.3 | 2.3 | 2.3 |
| 35–49,999 | 0.8 | 2.5 | 1.1 | 1.9 | 1.6 |
| 50,000 or more | 0.6 | 3.4 | 1.1 | 1.3 | 0.9 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-7 Standard errors for estimated percentages in table 35-2

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| **Total** | **0.2** | **0.8** | **0.3** | **0.3** | **0.2** |
| Less than $5,000 | 1.9 | 4.1 | 3.1 | 4.2 | 1.8 |
| 5–9,999 | 1.3 | 3.0 | 2.1 | 2.8 | 2.6 |
| 10–14,999 | 0.9 | 2.3 | 1.2 | 2.2 | 1.9 |
| 15–24,999 | 0.4 | 1.7 | 0.6 | 0.9 | 0.6 |
| 25–34,999 | 0.3 | 1.7 | 0.5 | 0.6 | 0.6 |
| 35–49,999 | 0.3 | 1.7 | 0.7 | 0.5 | 0.2 |
| 50,000 or more | 0.2 | 2.9 | 0.6 | 0.5 | 0.2 |
| **Total** | **0.3** | **1.1** | **0.5** | **0.7** | **0.4** |
| Less than $5,000 | 2.9 | 5.5 | 5.9 | 9.8 | ([2]) |
| 5–9,999 | 2.0 | 4.0 | 3.6 | 6.8 | ([2]) |
| 10–14,999 | 1.6 | 3.5 | 2.5 | 4.3 | ([2]) |
| 15–24,999 | 0.9 | 2.3 | 1.2 | 2.4 | 2.8 |
| 25–34,999 | 0.8 | 2.5 | 1.1 | 1.6 | 1.6 |
| 35–49,999 | 0.6 | 2.4 | 0.9 | 1.5 | 1.0 |
| 50,000 or more | 0.4 | 3.0 | 0.8 | 0.8 | 0.5 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-8 Standard errors for estimated percentages in table 35-3

| Income | Total[1] | 1–3 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| **Total** | **0.2** | **0.8** | **0.4** | **0.5** | **0.3** |
| Less than $5,000 | 1.5 | 2.6 | 2.6 | 4.6 | ([2]) |
| 5–9,999 | 1.2 | 2.3 | 2.0 | 3.5 | ([2]) |
| 10–14,999 | 1.1 | 2.5 | 1.7 | 2.9 | ([2]) |
| 15–24,999 | 0.6 | 1.7 | 0.9 | 1.4 | 1.4 |
| 25–34,999 | 0.4 | 1.7 | 0.7 | 0.9 | 0.9 |
| 35–49,999 | 0.4 | 1.7 | 0.7 | 0.7 | 0.5 |
| 50,000 or more | 0.3 | 2.1 | 0.6 | 0.6 | 0.4 |

[1] Includes individuals not separately reported with less than nine years of schooling and unknown years of schooling.

[2] Too few sample observations for a reliable estimate.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 1989.

## Table 35-9 Standard errors for estimated percentages in table 35-4

| Age | Total* | Less than 4 years high school | 4 years high school | 1–3 years college | 4 or more years college |
|---|---|---|---|---|---|
| **Twenty percent or more above desirable body weight** | | | | | |
| 18–29 | 0.4 | 1.1 | 0.6 | 0.8 | 1.0 |
| 30–44 | 0.5 | 1.4 | 0.8 | 1.0 | 0.9 |
| 45–64 | 0.6 | 1.1 | 0.9 | 1.4 | 1.3 |
| **Aware that high blood pressure increases the chance of getting heart disease** | | | | | |
| 18–29 | 0.3 | 1.0 | 0.5 | 0.5 | 0.6 |
| 30–44 | 0.3 | 1.1 | 0.5 | 0.5 | 0.4 |
| 45–64 | 0.3 | 0.8 | 0.5 | 0.7 | 0.6 |
| **Exercised or played sports regularly** | | | | | |
| 18–29 | 0.6 | 1.4 | 0.9 | 1.2 | 1.5 |
| 30–44 | 0.6 | 1.3 | 0.9 | 1.2 | 1.1 |
| 45–64 | 0.6 | 0.9 | 0.9 | 1.6 | 1.5 |
| **Currently smoked cigarettes** | | | | | |
| 18–29 | 0.6 | 1.5 | 0.9 | 1.0 | 1.2 |
| 30–44 | 0.5 | 1.5 | 0.9 | 1.2 | 0.9 |
| 45–64 | 0.6 | 1.1 | 0.9 | 1.5 | 1.2 |
| **Exposed to at least one job-related health hazard in current job** | | | | | |
| 18–29 | 0.6 | 1.4 | 0.8 | 1.2 | 1.6 |
| 30–44 | 0.6 | 1.4 | 0.9 | 1.2 | 1.1 |
| 45–64 | 0.6 | 1.1 | 1.0 | 1.6 | 1.5 |

*Includes individuals with unknown years of schooling.

SOURCE: National Center for Health Statistics, National Health Interview Survey of Health Promotion and Disease Prevention, 1985.

## Note on health characteristics of adults by years of schooling

The definitions of certain terms used in the National Health Interview Survey are found below.

**Limited activity due to a chronic condition**

*Chronic condition-* A condition is considered chronic if (a) the respondent indicates it was first noticed more than 3 months before the reference date of the interview, or (b) it is a type of condition that ordinarily has a duration of more than 3 months. Examples of conditions that are considered chronic regardless of their time of onset are diabetes, heart conditions, emphysema, and arthritis.

*Limitation of activity because of chronic conditions-* Persons are not classified as limited in activity unless one or more chronic conditions are reported as the cause of the activity limitation. Persons are classified as with limited activity if they are unable to perform or they are able to perform but limited in the kind or amount of an activity, such as working or keeping house.

**Assessed health status**

The percentage is based on a respondent's opinion of their own or a member of their household's health status. As such, it is not derived from any clinical evidence.

SOURCE: National Center for Health Statistics, *Vital and Health Statistics: Educational Differences in Health Status and Health Care, Appendix II,* September, 1992.

## Table 36-1 Percentage of preprimary students who are minority, by level: 1972–91

| Year | Prekindergarten | | | Kindergarten | | |
|---|---|---|---|---|---|---|
| | Total* | Black | Hispanic | Total* | Black | Hispanic |
| 1972 | 19.0 | 14.3 | 4.8 | 21.8 | 14.1 | 7.7 |
| 1973 | 20.6 | 15.5 | 5.1 | 19.2 | 13.7 | 5.6 |
| 1974 | 19.0 | 13.8 | 5.3 | 21.0 | 14.1 | 6.9 |
| 1975 | 20.6 | 15.7 | 4.9 | 20.6 | 13.7 | 6.9 |
| 1976 | 19.3 | 14.8 | 4.5 | 22.8 | 15.3 | 7.5 |
| 1977 | 19.9 | 15.3 | 4.6 | 22.3 | 15.4 | 6.9 |
| 1978 | 21.5 | 16.7 | 4.8 | 22.6 | 14.9 | 7.7 |
| 1979 | — | 14.9 | — | — | 16.4 | — |
| 1980 | 21.9 | 14.5 | 7.3 | 23.7 | 15.4 | 8.3 |
| 1981 | 20.2 | 13.8 | 6.4 | 24.6 | 15.0 | 9.7 |
| 1982 | 17.9 | 14.0 | 3.9 | 25.3 | 15.3 | 10.0 |
| 1983 | 18.4 | 13.9 | 4.6 | 24.0 | 14.1 | 10.0 |
| 1984 | 19.4 | 14.4 | 5.0 | 24.5 | 16.0 | 8.4 |
| 1985 | 20.1 | 13.3 | 6.7 | 25.7 | 16.2 | 9.5 |
| 1986 | 19.3 | 12.3 | 7.0 | 27.7 | 15.9 | 11.7 |
| 1987 | 19.4 | 10.7 | 8.7 | 28.0 | 17.1 | 10.9 |
| 1988 | 16.6 | 10.8 | 5.7 | 26.5 | 14.8 | 11.6 |
| 1989 | 18.7 | 12.6 | 6.0 | 25.7 | 15.7 | 10.1 |
| 1990 | 20.3 | 12.9 | 7.4 | 28.3 | 16.5 | 11.7 |
| 1991 | 19.3 | 12.3 | 7.0 | 29.4 | 16.3 | 13.2 |

— Not available.

*Includes only black and Hispanic.

NOTE: Pre-K kindergarten enrollment does not include those below 3 years of age.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 36-2 Standard errors for estimated percentages in text table for *Indicator 36*

| Year | Pre-K | | | | Kindergarten | | | |
|---|---|---|---|---|---|---|---|---|
| | Percent private | Percent full day | Percent minority | Percent low income | Percent private | Percent full day | Percent minority | Percent low income |
| 1972 | 2.0 | 2.0 | 1.7 | 1.3 | 2.0 | 1.0 | 1.1 | 0.8 |
| 1973 | 1.9 | 1.9 | 1.7 | 1.2 | 1.0 | 1.1 | 1.1 | 0.8 |
| 1974 | 1.7 | 1.8 | 1.5 | — | 1.0 | 1.1 | 1.1 | — |
| 1975 | 1.7 | 1.7 | 1.5 | 1.2 | 1.0 | 1.1 | 1.1 | 0.8 |
| 1976 | 1.8 | 1.8 | 1.5 | 1.2 | 0.9 | 1.1 | 1.1 | 0.9 |
| 1977 | 1.8 | 1.8 | 1.5 | 1.2 | 1.0 | 1.2 | 1.1 | 0.9 |
| 1978 | 1.7 | 1.7 | 1.5 | 1.1 | 1.0 | 1.3 | 1.2 | 0.9 |
| 1979 | 1.7 | 1.7 | — | 1.1 | 1.0 | 1.3 | — | 1.0 |
| 1980 | 1.6 | 1.6 | 1.4 | 1.1 | 1.0 | 1.3 | 1.2 | 1.0 |
| 1981 | 1.7 | 1.6 | 1.4 | 1.2 | 1.1 | 1.3 | 1.2 | 1.0 |
| 1982 | 1.7 | 1.6 | 1.3 | 1.2 | 1.1 | 1.3 | 1.2 | 1.1 |
| 1983 | 1.6 | 1.5 | 1.3 | 1.1 | 1.1 | 1.3 | 1.2 | 1.0 |
| 1984 | 1.6 | 1.6 | 1.3 | 1.0 | 1.0 | 1.3 | 1.2 | 1.1 |
| 1985 | 1.5 | 1.5 | 1.3 | 1.0 | 1.0 | 1.3 | 1.1 | 1.0 |
| 1986 | 1.5 | 1.5 | 1.3 | 1.0 | 0.9 | 1.3 | 1.2 | 1.0 |
| 1987 | 1.6 | 1.6 | 1.4 | 1.0 | 1.0 | 1.3 | 1.3 | 1.0 |
| 1988 | 1.6 | 1.6 | 1.3 | 1.1 | 1.0 | 1.4 | 1.2 | 1.1 |
| 1989 | 1.5 | 1.5 | 1.2 | 1.1 | 1.0 | 1.3 | 1.2 | 1.1 |
| 1990 | 1.4 | 1.4 | 1.2 | 1.0 | 1.0 | 1.3 | 1.2 | 1.1 |
| 1991 | 1.5 | 1.5 | 1.2 | 1.1 | 0.9 | 1.3 | 1.2 | 1.1 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 36-3 Standard errors for estimated percentages in table 36-1

| Year | Pre-K | | | Kindergarten | | |
|---|---|---|---|---|---|---|
| | Total | Black | Hispanic | Total | Black | Hispanic |
| 1972 | 1.7 | 1.5 | 0.8 | 1.1 | 0.9 | 0.7 |
| 1973 | 1.7 | 1.5 | 0.8 | 1.1 | 0.9 | 0.6 |
| 1974 | 1.5 | 1.3 | 0.8 | 1.1 | 0.9 | 0.6 |
| 1975 | 1.5 | 1.3 | 0.7 | 1.1 | 0.9 | 0.6 |
| 1976 | 1.5 | 1.4 | 0.7 | 1.1 | 0.9 | 0.6 |
| 1977 | 1.5 | 1.4 | 0.7 | 1.1 | 1.0 | 0.6 |
| 1978 | 1.5 | 1.3 | 0.7 | 1.2 | 1.0 | 0.7 |
| 1979 | — | 1.3 | — | — | 1.0 | — |
| 1980 | 1.4 | 1.2 | 0.8 | 1.2 | 1.0 | 0.7 |
| 1981 | 1.4 | 1.2 | 0.8 | 1.2 | 1.0 | 0.8 |
| 1982 | 1.3 | 1.2 | 0.6 | 1.2 | 1.0 | 0.8 |
| 1983 | 1.3 | 1.2 | 0.6 | 1.2 | 1.0 | 0.8 |
| 1984 | 1.3 | 1.2 | 0.7 | 1.2 | 1.0 | 0.8 |
| 1985 | 1.3 | 1.1 | 0.8 | 1.1 | 1.0 | 0.8 |
| 1986 | 1.3 | 1.1 | 0.8 | 1.2 | 0.9 | 0.8 |
| 1987 | 1.4 | 1.1 | 1.1 | 1.3 | 1.0 | 1.0 |
| 1988 | 1.3 | 1.1 | 0.9 | 1.2 | 1.0 | 1.0 |
| 1989 | 1.2 | 1.1 | 0.8 | 1.2 | 1.0 | 0.8 |
| 1990 | 1.2 | 1.0 | 0.8 | 1.2 | 1.0 | 0.9 |
| 1991 | 1.2 | 1.0 | 0.8 | 1.2 | 1.0 | 0.9 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey.

## Table 37-1 Enrollment in kindergarten through grade 8 (K–8) and grades 9–12 of public and private elementary schools, with projections: Fall 1970 to fall 2003 (in thousands)

| Fall of year | Public schools | | | Private schools[1] | | |
|---|---|---|---|---|---|---|
| | Grades K–12[2] | Grades K–8[2] | Grades 9–12 | Grades K–12[2] | Grades K–8[2] | Grades 9–12 |
| 1970 | 45,894 | 32,558 | 13,336 | 5,363 | 4,052 | 1,311 |
| 1971 | 46,071 | 32,318 | 13,753 | [3]5,200 | [3]3,900 | [3]1,300 |
| 1972 | 45,726 | 31,879 | 13,848 | [3]5,000 | [3]3,700 | [3]1,300 |
| 1973 | 45,445 | 31,401 | 14,044 | [3]5,000 | [3]3,700 | [3]1,300 |
| 1974 | 45,073 | 30,971 | 14,103 | [3]5,000 | [3]3,700 | [3]1,300 |
| 1975 | 44,819 | 30,515 | 14,304 | [3]5,000 | [3]3,700 | [3]1,300 |
| 1976 | 44,311 | 29,997 | 14,314 | 5,167 | 3,825 | 1,342 |
| 1977 | 43,577 | 29,375 | 14,203 | 5,140 | 3,797 | 1,343 |
| 1978 | 42,551 | 28,463 | 14,088 | 5,086 | 3,732 | 1,353 |
| 1979 | 41,651 | 28,034 | 13,616 | [3]5,000 | [3]3,700 | [3]1,300 |
| 1980 | 40,877 | 27,647 | 13,231 | 5,331 | 3,992 | 1,339 |
| 1981 | 40,044 | 27,280 | 12,764 | [3]5,500 | [3]4,100 | [3]1,400 |
| 1982 | 39,566 | 27,161 | 12,405 | [3]5,600 | [3]4,200 | [3]1,400 |
| 1983 | 39,252 | 26,981 | 12,271 | 5,715 | 4,315 | 1,400 |
| 1984 | 39,208 | 26,905 | 12,304 | [3]5,700 | [3]4,300 | [3]1,400 |
| 1985 | 39,422 | 27,034 | 12,388 | 5,557 | 4,195 | 1,362 |
| 1986 | 39,753 | 27,420 | 12,333 | [3]5,452 | [3]4,116 | [3]1,336 |
| 1987 | 40,008 | 27,933 | 12,077 | [3]5,479 | [3]4,232 | [3]1,247 |
| 1988 | 40,189 | 28,501 | 11,687 | [3]5,241 | [3]4,036 | [3]1,206 |
| 1989 | 40,543 | 29,152 | 11,390 | [3]5,355 | [3]4,162 | [3]1,193 |
| 1990 | 41,217 | 29,878 | 11,338 | [3]5,226 | [3]4,090 | [3]1,136 |
| 1991 | 42,000 | 30,470 | 11,530 | 5,193 | 47,069 | 1,124 |
| | | | **Projected** | | | |
| 1992 | 42,586 | 30,895 | 11,691 | 5,286 | 4,142 | 1,144 |
| 1993 | 43,356 | 31,350 | 12,006 | 5,378 | 4,203 | 1,175 |
| 1994 | 44,187 | 31,767 | 12,420 | 5,474 | 4,259 | 1,216 |
| 1995 | 45,071 | 32,285 | 12,786 | 5,580 | 4,328 | 1,252 |
| 1996 | 45,901 | 32,735 | 13,166 | 5,677 | 4,388 | 1,289 |
| 1997 | 46,533 | 33,087 | 13,446 | 5,752 | 4,436 | 1,316 |
| 1998 | 46,995 | 33,396 | 13,599 | 5,808 | 4,477 | 1,331 |
| 1999 | 47,368 | 33,624 | 13,744 | 5,853 | 4,507 | 1,345 |
| 2000 | 47,657 | 33,803 | 13,854 | 5,888 | 4,531 | 1,356 |
| 2001 | 47,895 | 33,944 | 13,951 | 5,916 | 4,550 | 1,366 |
| 2002 | 48,117 | 34,012 | 14,105 | 5,940 | 4,560 | 1,381 |
| 2003 | 48,276 | 33,969 | 14,307 | 5,954 | 4,554 | 1,400 |

[1] Beginning in fall 1980, data include estimates for expanded universe for private schools.

[2] Includes kindergarten and some nursery school enrollment.

[3] Estimated by NCES.

NOTE: Projections are based on data through 1990. Because of rounding, details might not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Historical Trends: State Education Facts*, 1992; Common Core of Data; *Digest of Education Statistics 1992*, table 3; *Projections of Education Statistics to 2002*, table 1.

## Table 37-2 Enrollment in public elementary and secondary schools, by region: Fall 1970–91

| Fall | United States | Northeast | Midwest | South | West |
|---|---|---|---|---|---|
| 1970 | 45,893,960 | 9,859,626 | 12,935,971 | 14,759,001 | 8,339,362 |
| 1971 | 46,071,327 | 9,971,570 | 12,969,606 | 14,777,250 | 8,352,901 |
| 1972 | 45,726,408 | 9,961,918 | 12,868,890 | 14,632,851 | 8,262,749 |
| 1973 | 45,444,787 | 9,848,531 | 12,666,765 | 14,677,072 | 8,252,419 |
| 1974 | 45,073,441 | 9,755,488 | 12,510,946 | 14,626,703 | 8,180,304 |
| 1975 | 44,819,327 | 9,679,178 | 12,294,896 | 14,654,450 | 8,190,803 |
| 1976 | 44,310,966 | 9,464,529 | 12,097,188 | 14,578,250 | 8,170,999 |
| 1977 | 43,577,373 | 9,156,161 | 11,763,817 | 14,560,506 | 8,096,889 |
| 1978 | 42,550,893 | 8,828,161 | 11,320,806 | 14,431,503 | 7,970,423 |
| 1979 | 41,650,712 | 8,479,590 | 11,031,720 | 14,258,129 | 7,881,273 |
| 1980 | 40,877,481 | 8,214,868 | 10,697,668 | 14,133,839 | 7,831,106 |
| 1981 | 40,044,093 | 7,890,815 | 10,372,082 | 13,990,167 | 7,791,029 |
| 1982 | 39,565,610 | 7,674,217 | 10,139,369 | 13,945,305 | 7,806,719 |
| 1983 | 39,252,308 | 7,512,651 | 9,986,078 | 13,914,276 | 7,839,303 |
| 1984 | 39,208,252 | 7,395,300 | 9,888,916 | 13,962,912 | 7,961,124 |
| 1985 | 39,421,961 | 7,318,330 | 9,862,018 | 14,117,297 | 8,124,316 |
| 1986 | 39,753,172 | 7,294,383 | 9,870,863 | 14,311,912 | 8,276,014 |
| 1987 | 40,008,213 | 7,251,796 | 9,870,056 | 14,418,553 | 8,467,808 |
| 1988 | 40,188,690 | 7,207,646 | 9,845,634 | 14,491,063 | 8,644,347 |
| 1989 | 40,542,707 | 7,200,252 | 9,848,522 | 14,605,372 | 8,888,561 |
| 1990 | 41,223,804 | 7,281,763 | 9,937,414 | 14,807,016 | 9,197,611 |
| 1991 | 42,000,343 | 7,406,610 | 10,061,950 | 15,052,820 | 9,478,963 |

NOTE: Enrollment includes a relatively small number of pre-kindergarten students. The regions of the country for this indicator differ from that listed in the glossary. The following delineates the regions. Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Historical Trends: State Education Facts 1969–89*, 1992, Table 1; Statistics of Public Elementary and Secondary Day Schools, various years, and Common Core of Data surveys.

## Table 37-3 Enrollment percentage distribution in public elementary and secondary schools, by region: Fall 1970–91

| Fall | Northeast | Midwest | South | West |
|---|---|---|---|---|
| 1970 | 21.5 | 28.2 | 32.2 | 18.2 |
| 1971 | 21.6 | 28.2 | 32.1 | 18.1 |
| 1972 | 21.8 | 28.1 | 32.0 | 18.1 |
| 1973 | 21.7 | 27.9 | 32.3 | 18.2 |
| 1974 | 21.6 | 27.8 | 32.5 | 18.2 |
| 1975 | 21.6 | 27.4 | 32.7 | 18.3 |
| 1976 | 21.4 | 27.3 | 32.9 | 18.4 |
| 1977 | 21.0 | 27.0 | 33.4 | 18.6 |
| 1978 | 20.7 | 26.6 | 33.9 | 18.7 |
| 1979 | 20.4 | 26.5 | 34.2 | 18.9 |
| 1980 | 20.1 | 26.2 | 34.6 | 19.2 |
| 1981 | 19.7 | 25.9 | 34.9 | 19.5 |
| 1982 | 19.4 | 25.6 | 35.2 | 19.7 |
| 1983 | 19.1 | 25.4 | 35.4 | 20.0 |
| 1984 | 18.9 | 25.2 | 35.6 | 20.3 |
| 1985 | 18.6 | 25.0 | 35.8 | 20.6 |
| 1986 | 18.3 | 24.8 | 36.0 | 20.8 |
| 1987 | 18.1 | 24.7 | 36.0 | 21.2 |
| 1988 | 17.9 | 24.5 | 36.1 | 21.5 |
| 1989 | 17.8 | 24.3 | 36.0 | 21.9 |
| 1990 | 17.7 | 24.1 | 35.9 | 22.3 |
| 1991 | 17.6 | 24.0 | 35.8 | 22.6 |

NOTE: Enrollment includes a relatively small number of pre-kindergarten students. The regions of the country for this indicator differ from that listed in the glossary. The following delineates the regions. Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Historical Trends: State Education Facts 1969–89*, 1992, Table 1; Statistics of Public Elementary and Secondary Day Schools, various years, and Common Core of Data surveys.

## Table 38-1 Total and full-time-equivalent (FTE) enrollment in higher education, by type and control of institution: Fall 1972–91

| Year | All institutions | Public, 4-year | Public, 2-year | Private, 4-year | Private, 2-year |
|---|---|---|---|---|---|
| | | **Total enrollment** | | | |
| 1972 | 9,214,860 | 4,429,696 | 2,640,939 | 2,028,978 | 115,247 |
| 1973 | 9,602,123 | 4,529,895 | 2,889,621 | 2,062,179 | 120,428 |
| 1974 | 10,223,729 | 4,703,018 | 3,285,482 | 2,116,717 | 118,512 |
| 1975 | 11,184,859 | 4,998,142 | 3,836,366 | 2,216,598 | 133,753 |
| 1976 | 11,012,137 | 4,901,691 | 3,751,786 | 2,227,125 | 131,535 |
| 1977 | 11,285,787 | 4,945,224 | 3,901,769 | 2,297,621 | 141,173 |
| 1978 | 11,260,092 | 4,912,203 | 3,873,690 | 2,319,748 | 154,451 |
| 1979 | 11,569,899 | 4,980,012 | 4,056,810 | 2,373,221 | 159,856 |
| 1980 | 12,096,895 | 5,128,612 | 4,328,782 | 2,441,996 | 197,505 |
| 1981 | 12,371,672 | 5,166,324 | 4,480,708 | 2,489,137 | 235,503 |
| 1982 | 12,425,780 | 5,176,434 | 4,519,653 | 2,477,640 | 252,053 |
| 1983 | 12,464,661 | 5,223,404 | 4,459,330 | 2,517,791 | 264,136 |
| 1984 | 12,241,940 | 5,198,273 | 4,279,097 | 2,512,894 | 251,676 |
| 1985 | 12,247,055 | 5,209,540 | 4,269,733 | 2,506,438 | 261,344 |
| 1986 | 12,503,511 | 5,300,202 | 4,413,691 | 2,523,761 | 265,857 |
| 1987 | 12,766,642 | 5,432,200 | 4,541,054 | 2,558,220 | 235,168 |
| 1988 | 13,055,337 | 5,545,901 | 4,615,487 | 2,634,281 | 259,668 |
| 1989 | 13,538,560 | 5,694,303 | 4,883,660 | 2,693,368 | 267,229 |
| 1990* | 13,819,522 | 5,848,245 | 4,996,471 | 2,731,197 | 243,609 |
| 1991 | 14,358,953 | 5,904,748 | 5,404,815 | 2,802,305 | 247,085 |
| | | **Full-time-equivalent (FTE) enrollment** | | | |
| 1972 | 7,253,739 | 3,706,239 | 1,746,609 | 1,700,582 | 100,309 |
| 1973 | 7,453,448 | 3,721,031 | 1,908,524 | 1,718,187 | 105,706 |
| 1974 | 7,805,453 | 3,847,550 | 2,097,254 | 1,758,699 | 101,950 |
| 1975 | 8,479,685 | 4,056,500 | 2,465,810 | 1,843,901 | 113,474 |
| 1976 | 8,312,502 | 3,998,450 | 2,351,453 | 1,849,551 | 113,048 |
| 1977 | 8,415,339 | 4,039,071 | 2,357,405 | 1,896,005 | 122,858 |
| 1978 | 8,348,482 | 3,996,126 | 2,283,073 | 1,936,447 | 132,836 |
| 1979 | 8,487,317 | 4,059,304 | 2,333,313 | 1,956,768 | 137,932 |
| 1980 | 8,819,013 | 4,158,267 | 2,484,027 | 2,003,105 | 173,614 |
| 1981 | 9,014,521 | 4,208,506 | 2,572,794 | 2,041,341 | 191,880 |
| 1982 | 9,091,648 | 4,220,648 | 2,629,941 | 2,028,275 | 212,784 |
| 1983 | 9,166,399 | 4,265,808 | 2,615,672 | 2,059,415 | 225,504 |
| 1984 | 8,951,695 | 4,237,895 | 2,446,769 | 2,054,816 | 212,215 |
| 1985 | 8,943,433 | 4,239,622 | 2,428,159 | 2,054,717 | 220,935 |
| 1986 | 9,064,168 | 4,295,495 | 2,482,551 | 2,064,829 | 221,293 |
| 1987 | 9,229,736 | 4,395,731 | 2,541,958 | 2,090,779 | 201,267 |
| 1988 | 9,466,878 | 4,505,501 | 2,591,571 | 2,159,770 | 210,036 |
| 1989 | 9,780,881 | 4,619,828 | 2,751,762 | 2,193,774 | 215,517 |
| 1990* | 9,983,927 | 4,740,051 | 2,817,931 | 2,228,450 | 197,495 |
| 1991 | 10,360,606 | 4,795,704 | 3,067,141 | 2,285,750 | 212,011 |

*Data have been revised from previously published figures.

NOTE: Large increases in private 2-year institutions in 1980 and 1981 reflect the addition of schools accredited by the National Association of Trade and Technical Schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics* 1992, tables 161 and 187 and unpublished tabulations (based on the IPEDS/HEGIS surveys of fall enrollment, various years).

## Table 38-2 Index of total and full-time-equivalent enrollment (1981=100) in higher education, by type and control of institution: Fall 1972–91

| Fall of year | All institution | Public, 4-year | Public, 2-year | Private, 4-year | Private, 2-year |
|---|---|---|---|---|---|
| | | | **Total enrollment** | | |
| 1972 | 74.5 | 85.7 | 58.9 | 81.5 | 48.9 |
| 1973 | 77.6 | 87.7 | 64.5 | 82.8 | 51.1 |
| 1974 | 82.6 | 91.0 | 73.3 | 85.0 | 50.3 |
| 1975 | 90.4 | 96.7 | 85.6 | 89.1 | 56.8 |
| 1976 | 89.0 | 94.9 | 83.7 | 89.5 | 55.9 |
| 1977 | 91.2 | 95.7 | 87.1 | 92.3 | 59.9 |
| 1978 | 91.0 | 95.1 | 86.5 | 93.2 | 65.6 |
| 1979 | 93.5 | 96.4 | 90.5 | 95.3 | 67.9 |
| 1980 | 97.8 | 99.3 | 96.6 | 98.1 | 83.9 |
| 1981 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1982 | 100.4 | 100.2 | 100.9 | 99.5 | 107.0 |
| 1983 | 100.8 | 101.1 | 99.5 | 101.2 | 112.2 |
| 1984 | 99.0 | 100.6 | 95.5 | 101.0 | 106.9 |
| 1985 | 99.0 | 100.8 | 95.3 | 100.7 | 111.0 |
| 1986 | 101.1 | 102.6 | 98.5 | 101.4 | 112.9 |
| 1987 | 103.2 | 105.1 | 101.3 | 102.8 | 99.9 |
| 1988 | 105.5 | 107.3 | 103.0 | 105.8 | 110.3 |
| 1989 | 109.4 | 110.2 | 109.0 | 108.2 | 113.5 |
| 1990* | 111.7 | 113.2 | 111.5 | 109.7 | 103.4 |
| 1991 | 116.1 | 114.3 | 120.6 | 112.6 | 104.9 |
| | | | **Full-time-equivalent (FTE) enrollment** | | |
| 1972 | 80.5 | 88.1 | 67.9 | 83.3 | 52.3 |
| 1973 | 82.7 | 88.4 | 74.2 | 84.2 | 55.1 |
| 1974 | 86.6 | 91.4 | 81.5 | 86.2 | 53.1 |
| 1975 | 94.1 | 96.4 | 95.8 | 90.3 | 59.1 |
| 1976 | 92.2 | 95.0 | 91.4 | 90.6 | 58.9 |
| 1977 | 93.4 | 96.0 | 91.6 | 92.9 | 64.0 |
| 1978 | 92.6 | 95.0 | 88.7 | 94.9 | 69.2 |
| 1979 | 94.2 | 96.5 | 90.7 | 95.9 | 71.9 |
| 1980 | 97.8 | 98.8 | 96.5 | 98.1 | 90.5 |
| 1981 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1982 | 100.9 | 100.3 | 102.2 | 99.4 | 110.9 |
| 1983 | 101.7 | 101.4 | 101.7 | 100.9 | 117.5 |
| 1984 | 99.3 | 100.7 | 95.1 | 100.7 | 110.6 |
| 1985 | 99.2 | 100.7 | 94.4 | 100.7 | 115.1 |
| 1986 | 100.6 | 102.1 | 96.5 | 101.2 | 115.3 |
| 1987 | 102.4 | 104.4 | 98.8 | 102.4 | 104.9 |
| 1988 | 105.0 | 107.1 | 100.7 | 105.8 | 109.5 |
| 1989 | 108.5 | 109.8 | 107.0 | 107.5 | 112.3 |
| 1990* | 110.8 | 112.6 | 109.5 | 109.2 | 102.9 |
| 1991 | 114.9 | 114.0 | 119.2 | 112.0 | 110.5 |

*Revised from previously published figures.

NOTE: Increases in enrollments in private 2-year institutions in 1980 and 1981 reflect the addition of schools accredited by the National Association of Trade and Technical Schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics *Digest of Education Statistics* 1992, tables 161 and 187 and unpublished tabulations (based on the IPEDS/HEGIS surveys of fall enrollment, various years).

## Table 38-3 Percentage distribution of total and full-time-equivalent enrollment in higher education, by type and control of institution: Fall 1972–91

| Fall of year | Total | Public, 4-year | Public, 2-year | Private, 4-year | Private, 2-year |
|---|---|---|---|---|---|
| | | | **Total enrollment** | | |
| 1972 | 100.0 | 48.1 | 28.7 | 22.0 | 1.3 |
| 1973 | 100.0 | 47.2 | 30.1 | 21.5 | 1.3 |
| 1974 | 100.0 | 46.0 | 32.1 | 20.7 | 1.2 |
| 1975 | 100.0 | 44.7 | 34.3 | 19.8 | 1.2 |
| 1976 | 100.0 | 44.5 | 34.1 | 20.2 | 1.2 |
| 1977 | 100.0 | 43.8 | 34.6 | 20.4 | 1.3 |
| 1978 | 100.0 | 43.6 | 34.4 | 20.6 | 1.4 |
| 1979 | 100.0 | 43.0 | 35.1 | 20.5 | 1.4 |
| 1980 | 100.0 | 42.4 | 35.8 | 20.2 | 1.6 |
| 1981 | 100.0 | 41.8 | 36.2 | 20.1 | 1.9 |
| 1982 | 100.0 | 41.7 | 36.4 | 19.9 | 2.0 |
| 1983 | 100.0 | 41.9 | 35.8 | 20.2 | 2.1 |
| 1984 | 100.0 | 42.5 | 35.0 | 20.5 | 2.1 |
| 1985 | 100.0 | 42.5 | 34.9 | 20.5 | 2.1 |
| 1986 | 100.0 | 42.4 | 35.3 | 20.2 | 2.1 |
| 1987 | 100.0 | 42.5 | 35.6 | 20.0 | 1.8 |
| 1988 | 100.0 | 42.5 | 35.4 | 20.2 | 2.0 |
| 1989 | 100.0 | 42.1 | 36.1 | 19.9 | 2.0 |
| 1990* | 100.0 | 42.3 | 36.2 | 19.8 | 1.8 |
| 1991 | 100.0 | 41.1 | 37.6 | 19.5 | 1.7 |
| | | | **Full-time-equivalent (FTE) enrollment** | | |
| 1972 | 100.0 | 51.1 | 24.1 | 23.4 | 1.4 |
| 1973 | 100.0 | 49.9 | 25.6 | 23.1 | 1.4 |
| 1974 | 100.0 | 49.3 | 26.9 | 22.5 | 1.3 |
| 1975 | 100.0 | 47.8 | 29.1 | 21.7 | 1.3 |
| 1976 | 100.0 | 48.1 | 28.3 | 22.3 | 1.4 |
| 1977 | 100.0 | 48.0 | 28.0 | 22.5 | 1.5 |
| 1978 | 100.0 | 47.9 | 27.3 | 23.2 | 1.6 |
| 1979 | 100.0 | 47.8 | 27.5 | 23.1 | 1.6 |
| 1980 | 100.0 | 47.2 | 28.2 | 22.7 | 2.0 |
| 1981 | 100.0 | 46.7 | 28.5 | 22.6 | 2.1 |
| 1982 | 100.0 | 46.4 | 28.9 | 22.3 | 2.3 |
| 1983 | 100.0 | 46.5 | 28.5 | 22.5 | 2.5 |
| 1984 | 100.0 | 47.3 | 27.3 | 23.0 | 2.4 |
| 1985 | 100.0 | 47.4 | 27.2 | 23.0 | 2.5 |
| 1986 | 100.0 | 47.4 | 27.4 | 22.8 | 2.4 |
| 1987 | 100.0 | 47.6 | 27.5 | 22.7 | 2.2 |
| 1988 | 100.0 | 47.6 | 27.4 | 22.8 | 2.2 |
| 1989 | 100.0 | 47.2 | 28.1 | 22.4 | 2.2 |
| 1990* | 100.0 | 47.5 | 28.2 | 22.3 | 2.0 |
| 1991 | 100.0 | 46.3 | 29.6 | 22.1 | 2.0 |

*Revised from preiously published figures.

NOTE: Increases in private 2-year institutions in 1980 and 1981 reflect the addition of schools accredited by the National Association of Trade and Technical Schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics* 1992, tables 161 and 187 and unpublished tabulations (based on the IPEDS/HEGIS surveys of fall enrollment, various years).

## **Table 38-4** High school graduates, by age: 1972–91

| Year | Number (in thousands) | | Index (1981=100) | |
|---|---|---|---|---|
| | 20–24 | 25–34 | 20–24 | 25–34 |
| 1972 | 14,256 | 20,459 | 81.6 | 63.1 |
| 1973 | 14,713 | 21,695 | 84.2 | 67.0 |
| 1974 | 14,932 | 23,195 | 85.4 | 71.6 |
| 1975 | 15,468 | 24,390 | 88.5 | 75.3 |
| 1976 | 15,825 | 25,774 | 90.6 | 79.6 |
| 1977 | 16,102 | 26,919 | 92.1 | 83.1 |
| 1978 | 16,403 | 27,822 | 93.9 | 85.9 |
| 1979 | 16,754 | 28,849 | 95.9 | 89.0 |
| 1980 | 17,333 | 31,259 | 99.2 | 96.5 |
| 1981 | 17,475 | 32,399 | 100.0 | 100.0 |
| 1982 | 17,667 | 33,397 | 101.1 | 103.1 |
| 1983 | 17,775 | 33,976 | 101.7 | 104.9 |
| 1984 | 17,750 | 34,757 | 101.6 | 107.3 |
| 1985 | 17,110 | 35,465 | 97.9 | 109.5 |
| 1986 | 16,855 | 36,510 | 96.5 | 112.7 |
| 1987 | 16,389 | 36,891 | 93.8 | 113.9 |
| 1988 | 16,055 | 37,118 | 91.9 | 114.6 |
| 1989 | 15,522 | 37,427 | 88.8 | 115.5 |
| 1990 | 15,168 | 37,282 | 86.8 | 115.1 |
| 1991 | 15,163 | 36,939 | 86.8 | 114.0 |

NOTE: High school grduates are those who have completed 4 or more years of high school.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports, Series P-20, Education Attainment in the United States: March . . .,"* various years and unpublished tabulations.

## Table 39-1 Number of degrees conferred, by level of degree and number of high school completions: Academic years ending 1971–90

| Year | Degrees | | | | | High school completions[2] |
|---|---|---|---|---|---|---|
| | Associate's | Bachelor's | Master's | Doctor's | First-professional[1] | |
| 1971 | 252,610 | 839,730 | 230,509 | 32,107 | 37,946 | — |
| 1972 | 292,119 | 887,273 | 251,633 | 33,363 | 43,411 | — |
| 1973 | 316,174 | 922,362 | 263,371 | 34,777 | 50,018 | — |
| 1974 | 343,924 | 945,776 | 277,033 | 33,816 | 53,816 | 3,367,000 |
| 1975 | 360,171 | 922,933 | 292,450 | 34,083 | 55,916 | 3,473,000 |
| 1976 | 391,454 | 925,746 | 311,771 | 34,064 | 62,649 | 3,481,000 |
| 1977 | 406,377 | 919,549 | 317,164 | 33,232 | 64,359 | 3,487,000 |
| 1978 | 412,246 | 921,204 | 311,620 | 32,131 | 66,581 | 3,508,000 |
| 1979 | 402,702 | 921,390 | 301,079 | 32,730 | 68,848 | 3,543,000 |
| 1980 | 400,910 | 929,417 | 298,081 | 32,615 | 70,131 | 3,522,000 |
| 1981 | 416,377 | 935,140 | 295,739 | 32,958 | 71,956 | 3,509,000 |
| 1982 | 434,515 | 952,998 | 295,546 | 32,707 | 72,032 | 3,481,000 |
| 1983 | 456,441 | 969,510 | 289,921 | 32,775 | 73,136 | 3,353,000 |
| 1984 | 452,416 | 974,309 | 284,263 | 33,209 | 74,407 | 3,194,000 |
| 1985 | 454,712 | 979,477 | 286,251 | 32,943 | 75,063 | 3,090,000 |
| 1986 | 446,047 | 987,823 | 288,567 | 33,653 | 73,910 | 3,071,000 |
| 1987 | 437,137 | 991,339 | 289,557 | 34,120 | 72,750 | 3,138,000 |
| 1988 | 435,537 | 993,362 | 298,733 | 34,839 | 70,415 | 3,183,000 |
| 1989 | 436,764 | 1,018,755 | 310,621 | 35,720 | 70,856 | 3,081,000 |
| 1990 | 454,679 | 1,049,657 | 323,844 | 38,238 | 70,980 | 3,001,000 |

—Not available.

[1] The National Center for Education Statistics recognizes 10 first-professional degree fields: chiropractic, dentistry, law, medicine, optometry, osteopathy, pharmacy, podiatry, theology, and veterinary medicine.

[2] High school completers are the graduates of regular public and private day school programs and the recipients of GED credentials. Data for GED recipients are not available before 1974.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1991*, tables 95, 97, and 228 and unpublished tabulations (based on National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred and Common Core of Data; American Council of Education, annual GED survey).

## Table 40-1 Index of number of bachelor's degrees conferred in science and engineering (1981=100), by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **All fields** | **89.8** | **94.9** | **98.6** | **101.1** | **98.7** | **99.0** | **98.3** | **98.5** | **98.5** | **99.4** |
| Total science and engineering | 79.8 | 81.0 | 84 | 86.8 | 84.7 | 85.4 | 86.7 | 89.0 | 92.0 | 95.7 |
| Natural sciences | 104.7 | 104.5 | 109.9 | 116.5 | 115.9 | 117.2 | 115.4 | 111.3 | 107.2 | 103.7 |
| Life sciences | 82.7 | 86.3 | 97.7 | 111.9 | 119.7 | 125.6 | 124.0 | 119.2 | 113.0 | 107.3 |
| Physical sciences | 89.4 | 86.6 | 86.4 | 88.4 | 86.7 | 89.6 | 93.9 | 96.0 | 96.9 | 97.7 |
| Mathematics | 223.9 | 214 | 208.2 | 195.3 | 164 | 144.3 | 128.1 | 113.5 | 106.6 | 102.7 |
| Computer sciences and engineering | 58.2 | 60.5 | 61.7 | 61.1 | 57.6 | 57.7 | 61.8 | 69.7 | 78.9 | 88.8 |
| Computer and information sciences | 15.8 | 22.5 | 28.5 | 31.5 | 33.3 | 37.4 | 42.4 | 47.6 | 57.7 | 73.8 |
| Engineering | 66.7 | 68.2 | 68.4 | 67.0 | 62.5 | 61.8 | 65.7 | 74.2 | 83.2 | 91.9 |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **All fields** | **100.0** | **101.9** | **103.7** | **104.2** | **104.7** | **105.6** | **106.0** | **106.2** | **108.9** | **112.2** |
| Total science and engineering | 100.0 | 105.5 | 112.6 | 120.1 | 126.1 | 127.3 | 124 | 115.1 | 109.4 | 105.4 |
| Natural sciences | 100.0 | 98.8 | 96.9 | 96.5 | 98.8 | 97.8 | 95.3 | 90.0 | 87.5 | 86.8 |
| Life sciences | 100.0 | 96.4 | 92.5 | 89.4 | 89.0 | 89.1 | 88.2 | 85.1 | 83.4 | 86.0 |
| Physical sciences | 100.0 | 100.4 | 97.7 | 98.8 | 99.1 | 90.7 | 83.4 | 74.2 | 71.8 | 67.3 |
| Mathematics | 100.0 | 104.7 | 112.4 | 119.3 | 136.7 | 147.2 | 148.8 | 143.4 | 137.4 | 131.8 |
| Computer sciences and engineering | 100.0 | 111.3 | 126.3 | 140.5 | 149.8 | 153.0 | 147.3 | 136.9 | 128.4 | 121.6 |
| Computer and information sciences | 100.0 | 134.0 | 162.1 | 212.8 | 257.1 | 277.0 | 262.3 | 228.5 | 201.4 | 181.4 |
| Engineering | 100.0 | 106.7 | 119.0 | 125.9 | 128.1 | 127.9 | 124.1 | 118.4 | 113.6 | 109.5 |

NOTE: The engineering category includes degrees conferred in engineering technologies. In 1990, 22.0 percent of the degrees in this category were in engineering technologies, up from 15.6 percent in 1981 and 10.3 percent in 1971. Excluding engineerng technologies, the index of degrees earned in engineering was 101.2 in 1990 and 70.9 in 1971.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1992*, tables 236, 237, and 238 (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 40-2 Percentage of bachelor's degrees conferred in science and engineering, by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **16.0** | **15.4** | **15.3** | **15.5** | **15.4** | **15.5** | **15.9** | **16.3** | **16.8** | **17.3** |
| Natural sciences | 9.8 | 9.2 | 9.3 | 9.6 | 9.8 | 9.9 | 9.8 | 9.5 | 9.1 | 8.7 |
| Life sciences | 4.3 | 4.2 | 4.6 | 5.1 | 5.6 | 5.9 | 5.8 | 5.6 | 5.3 | 5.0 |
| Physical sciences | 2.5 | 2.3 | 2.2 | 2.2 | 2.3 | 2.3 | 2.4 | 2.5 | 2.5 | 2.5 |
| Mathematics | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 |
| Computer sciences and engineering | 6.2 | 6.1 | 6.0 | 5.8 | 5.6 | 5.6 | 6.1 | 6.8 | 7.7 | 8.6 |
| Computer and information sciences | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.2 |
| Engineering | 6.0 | 5.8 | 5.6 | 5.3 | 5.1 | 5.0 | 5.4 | 6.0 | 6.8 | 7.4 |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **18.0** | **18.6** | **19.6** | **20.7** | **21.7** | **21.7** | **20.9** | **19.5** | **18.1** | **16.9** |
| Natural sciences | 8.4 | 8.1 | 7.8 | 7.8 | 7.9 | 7.8 | 7.5 | 7.1 | 6.7 | 6.5 |
| Life sciences | 4.6 | 4.4 | 4.1 | 4.0 | 3.9 | 3.9 | 3.8 | 3.7 | 3.5 | 3.5 |
| Physical sciences | 2.6 | 2.5 | 2.4 | 2.4 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.5 |
| Mathematics | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.7 | 1.7 | 1.6 | 1.5 | 1.4 |
| Computer sciences and engineering | 9.6 | 10.5 | 11.7 | 13.0 | 13.8 | 14.0 | 13.4 | 12.4 | 11.4 | 10.4 |
| Computer and information sciences | 1.6 | 2.1 | 2.5 | 3.3 | 4.0 | 4.2 | 4.0 | 3.5 | 3.0 | 2.6 |
| Engineering | 8.0 | 8.4 | 9.2 | 9.7 | 9.8 | 9.7 | 9.4 | 8.9 | 8.4 | 7.8 |

NOTE: The engineering category includes degrees conferred in engineering technologies. In 1990, 22.0 percent of the degrees in this category were in engineering technologies, up from 15.6 percent in 1981 and 10.3 percent in 1971. Excluding engineering technologies, the percentage of degrees conferred in engineering was 6.1 percent in 1990, 6.8 percent in 1981 and 5.3 percent in 1971.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1992*, tables 236, 237, and 238 (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 40-3 Number of bachelor's degrees conferred in science and engineering, by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **All fields** | **839,730** | **887,273** | **922,362** | **945,776** | **922,933** | **925,746** | **919,549** | **921,204** | **921,390** | **929,417** |
| Total science and engineering | 134,390 | 136,317 | 141,565 | 146,195 | 142,585 | 143,707 | 145,988 | 149,912 | 154,953 | 161,205 |
| Natural sciences | 81,956 | 81,751 | 85,996 | 91,153 | 90,700 | 91,724 | 90,298 | 87,057 | 83,859 | 81,158 |
| Life sciences | 35,743 | 37,293 | 42,233 | 48,340 | 51,741 | 54,275 | 53,605 | 51,502 | 48,846 | 46,370 |
| Physical sciences | 21,412 | 20,745 | 20,696 | 21,178 | 20,778 | 21,465 | 22,497 | 22,986 | 23,207 | 23,410 |
| Mathematics | 24,801 | 23,713 | 23,067 | 21,635 | 18,181 | 15,984 | 14,196 | 12,569 | 11,806 | 11,378 |
| Computer sciences and engineering | 52,434 | 54,566 | 55,569 | 55,042 | 51,885 | 51,983 | 55,690 | 62,855 | 71,094 | 80,047 |
| Computer and information sciences | 2,388 | 3,402 | 4,304 | 4,756 | 5,033 | 5,652 | 6,407 | 7,201 | 8,719 | 11,154 |
| Engineering | 50,046 | 51,164 | 51,265 | 50,286 | 46,852 | 46,331 | 49,283 | 55,654 | 62,375 | 68,893 |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **All fields** | **935,140** | **952,998** | **969,510** | **974,309** | **979,477** | **987,823** | **991,339** | **993,362** | **1,018,755** | **1,049,657** |
| Total science and engineering | 168,367 | 177,562 | 189,620 | 202,138 | 212,306 | 214,403 | 207,315 | 193,764 | 184,142 | 177,442 |
| Natural sciences | 78,246 | 77,290 | 75,840 | 75,522 | 77,323 | 76,561 | 74,577 | 70,425 | 68,463 | 67,898 |
| Life sciences | 43,216 | 41,639 | 39,982 | 38,640 | 38,445 | 38,524 | 38,114 | 36,761 | 36,059 | 37,170 |
| Physical sciences | 23,952 | 24,052 | 23,405 | 23,671 | 23,732 | 21,731 | 19,974 | 17,776 | 17,186 | 16,131 |
| Mathematics | 11,078 | 11,599 | 12,453 | 13,211 | 15,146 | 16,306 | 16,489 | 15,888 | 15,218 | 14,597 |
| Computer sciences and engineering | 90,121 | 100,272 | 113,780 | 126,616 | 134,983 | 137,842 | 132,738 | 123,339 | 115,679 | 109,544 |
| Computer and information sciences | 15,121 | 20,267 | 24,510 | 32,172 | 38,878 | 41,889 | 39,664 | 34,548 | 30,454 | 27,434 |
| Engineering | 75,000 | 80,005 | 89,270 | 94,444 | 96,105 | 95,953 | 93,074 | 88,791 | 85,225 | 82,110 |

NOTE: The engineering category includes degrees conferred in engineering technologies. Excluding engineering technologies, the number of degrees conferred in engineering was 64,077 in 1990, 63,287 in 1981, and 44,898 in 1971.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1992*, tables 236, 237, and 238 (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 41-1 Number of bachelor's degrees conferred, by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979* | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **839,730** | **887,273** | **922,362** | **945,776** | **922,933** | **925,746** | **919,549** | **921,204** | **921,390** | **929,417** |
| Humanities and social/behavioral sciences | 336,627 | 350,288 | 356,877 | 358,082 | 338,642 | 326,810 | 310,467 | 300,553 | 288,332 | 281,592 |
| Humanities | 143,511 | 149,158 | 153,260 | 155,963 | 152,489 | 150,615 | 146,215 | 143,167 | 137,949 | 136,111 |
| Social and behavioral sciences | 193,116 | 201,130 | 203,617 | 202,119 | 186,153 | 176,195 | 164,252 | 157,386 | 150,383 | 145,481 |
| Natural and computer sciences and engineering | 134,390 | 136,317 | 141,565 | 146,195 | 142,585 | 143,707 | 145,988 | 149,912 | 154,953 | 161,205 |
| Natural sciences | 81,956 | 81,751 | 85,996 | 91,153 | 90,700 | 91,724 | 90,298 | 87,057 | 83,859 | 81,158 |
| Life sciences | 35,743 | 37,293 | 42,233 | 48,340 | 51,741 | 54,275 | 53,605 | 51,502 | 48,846 | 46,370 |
| Physical sciences | 21,412 | 20,745 | 20,696 | 21,178 | 20,778 | 21,465 | 22,497 | 22,986 | 23,207 | 23,410 |
| Mathematics | 24,801 | 23,713 | 23,067 | 21,635 | 18,181 | 15,984 | 14,196 | 12,569 | 11,806 | 11,378 |
| Computer science and engineering | 52,434 | 54,566 | 55,569 | 55,042 | 51,885 | 51,983 | 55,690 | 62,855 | 71,094 | 80,047 |
| Computer science | 2,388 | 3,402 | 4,304 | 4,756 | 5,033 | 5,652 | 6,407 | 7,201 | 8,719 | 11,154 |
| Engineering | 50,046 | 51,164 | 51,265 | 50,286 | 46,852 | 46,331 | 49,283 | 55,654 | 62,375 | 68,893 |
| Technical/professional | 368,713 | 400,668 | 423,920 | 441,499 | 441,706 | 455,229 | 463,094 | 470,739 | 478,105 | 486,620 |
| Education | 176,614 | 191,220 | 194,229 | 185,225 | 167,015 | 154,807 | 143,722 | 136,141 | 126,109 | 118,169 |
| Business and other technical/professional | 192,099 | 209,448 | 229,691 | 256,274 | 274,691 | 300,422 | 319,372 | 334,598 | 351,996 | 368,451 |
| Business and management | 114,865 | 121,360 | 126,263 | 131,766 | 133,010 | 142,379 | 150,964 | 160,187 | 171,764 | 185,361 |
| Other technical/professional | 77,234 | 88,088 | 103,428 | 124,508 | 141,681 | 158,043 | 168,408 | 174,411 | 180,232 | 183,090 |
| Not classified by field of study | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **935,140** | **952,998** | **969,510** | **974,309** | **979,477** | **987,823** | **991,339** | **994,829** | **1,018,755** | **1,049,657** |
| Humanities and social/behavioral sciences | 275,179 | 276,138 | 268,662 | 266,912 | 263,477 | 266,558 | 275,386 | 285,647 | 306,143 | 330,160 |
| Humanities | 134,001 | 135,562 | 133,210 | 133,828 | 132,205 | 132,334 | 136,333 | 140,356 | 149,492 | 159,649 |
| Social and behavioral sciences | 141,178 | 140,576 | 135,452 | 133,084 | 131,272 | 134,224 | 139,053 | 145,291 | 156,651 | 170,511 |
| Natural and computer sciences and engineering | 168,367 | 177,562 | 189,620 | 202,138 | 212,306 | 214,403 | 207,315 | 193,694 | 184,142 | 177,442 |
| Natural sciences | 78,246 | 77,290 | 75,840 | 75,522 | 77,323 | 76,561 | 74,577 | 70,465 | 68,463 | 67,898 |
| Life sciences | 43,216 | 41,639 | 39,982 | 38,640 | 38,445 | 38,524 | 38,114 | 36,755 | 36,059 | 37,170 |
| Physical sciences | 23,952 | 24,052 | 23,405 | 23,671 | 23,732 | 21,731 | 19,974 | 17,806 | 17,186 | 16,131 |
| Mathematics | 11,078 | 11,599 | 12,453 | 13,211 | 15,146 | 16,306 | 16,489 | 15,904 | 15,218 | 14,597 |
| Computer science and engineering | 90,121 | 100,272 | 113,780 | 126,616 | 134,983 | 137,842 | 132,738 | 123,229 | 115,679 | 109,544 |
| Computer science | 15,121 | 20,267 | 24,510 | 32,172 | 38,878 | 41,889 | 39,664 | 34,523 | 30,454 | 27,434 |
| Engineering | 75,000 | 80,005 | 89,270 | 94,444 | 96,105 | 95,953 | 93,074 | 88,706 | 85,225 | 82,110 |
| Technical/professional | 491,594 | 499,298 | 511,228 | 505,259 | 503,694 | 506,862 | 508,638 | 513,687 | 526,065 | 539,328 |
| Education | 108,309 | 101,113 | 97,991 | 92,382 | 88,161 | 87,221 | 87,115 | 91,287 | 97,082 | 104,715 |
| Business and other technical/professional | 383,285 | 398,185 | 413,237 | 412,877 | 415,533 | 419,641 | 421,523 | 422,400 | 428,983 | 434,613 |
| Business and management | 199,338 | 214,001 | 226,893 | 230,031 | 233,351 | 238,160 | 241,156 | 243,725 | 247,175 | 249,081 |
| Other technical/professional | 183,947 | 184,184 | 186,344 | 182,846 | 182,182 | 181,481 | 180,367 | 178,675 | 181,808 | 185,532 |
| Not classified by field of study | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,801 | 2,405 | 2,727 |

*Revised from previously published figures.

NOTE: See Glossary for definitions of fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, table 236. (based on National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred).

## Table 41-2 Index of number of bachelor's degrees conferred (1981=100), by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **89.8** | **94.9** | **98.6** | **101.1** | **98.7** | **99.0** | **98.3** | **98.5** | **98.5** | **99.4** |
| Humanities and social/behavioral sciences | 122.3 | 127.3 | 129.7 | 130.1 | 123.1 | 118.8 | 112.8 | 109.2 | 104.8 | 102.3 |
| Humanities | 107.1 | 111.3 | 114.4 | 116.4 | 113.8 | 112.4 | 109.1 | 106.8 | 102.9 | 101.6 |
| Social and behavioral sciences | 136.8 | 142.5 | 144.2 | 143.2 | 131.9 | 124.8 | 116.3 | 111.5 | 106.5 | 103.0 |
| Natural and computer sciences and engineering | 79.8 | 81.0 | 84.1 | 86.8 | 84.7 | 85.4 | 86.7 | 89.0 | 92.0 | 95.7 |
| Natural sciences | 104.7 | 104.5 | 109.9 | 116.5 | 115.9 | 117.2 | 115.4 | 111.3 | 107.2 | 103.7 |
| Life sciences | 82.7 | 86.3 | 97.7 | 111.9 | 119.7 | 125.6 | 124.0 | 119.2 | 113.0 | 107.3 |
| Physical sciences | 89.4 | 86.6 | 86.4 | 88.4 | 86.7 | 89.6 | 93.9 | 96.0 | 96.9 | 97.7 |
| Mathematics | 223.9 | 214.1 | 208.2 | 195.3 | 164.1 | 144.3 | 128.1 | 113.5 | 106.6 | 102.7 |
| Computer science and engineering | 58.2 | 60.5 | 61.7 | 61.1 | 57.6 | 57.7 | 61.8 | 69.7 | 78.9 | 88.8 |
| Computer science | 15.8 | 22.5 | 28.5 | 31.5 | 33.3 | 37.4 | 42.4 | 47.6 | 57.7 | 73.8 |
| Engineering | 66.7 | 68.2 | 68.4 | 67.0 | 62.5 | 61.8 | 65.7 | 74.2 | 83.2 | 91.9 |
| Technical/professional | 75.0 | 81.5 | 86.2 | 89.8 | 89.9 | 92.6 | 94.2 | 95.8 | 97.3 | 99.0 |
| Education | 163.1 | 176.6 | 179.3 | 171.0 | 154.2 | 142.9 | 132.7 | 125.7 | 116.4 | 109.1 |
| Business and other technical/professional | 50.1 | 54.6 | 59.9 | 66.9 | 71.7 | 78.4 | 83.3 | 87.3 | 91.8 | 96.1 |
| Business and management | 57.6 | 60.9 | 63.3 | 66.1 | 66.7 | 71.4 | 75.7 | 80.4 | 86.2 | 93.0 |
| Other technical/professional | 42.0 | 47.9 | 56.2 | 67.7 | 77.0 | 85.9 | 91.6 | 94.8 | 98.0 | 99.5 |
| Not classified by field of study | — | — | — | — | — | — | — | — | — | — |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **100.0** | **101.9** | **103.7** | **104.2** | **104.7** | **105.6** | **106.0** | **106.4** | **108.9** | **112.2** |
| Humanities and social/behavioral sciences | 100.0 | 100.3 | 97.6 | 97.0 | 95.7 | 96.9 | 100.1 | 103.8 | 111.3 | 120.0 |
| Humanities | 100.0 | 101.2 | 99.4 | 99.9 | 98.7 | 98.8 | 101.7 | 104.7 | 111.6 | 119.1 |
| Social and behavioral sciences | 100.0 | 99.6 | 95.9 | 94.3 | 93.0 | 95.1 | 98.5 | 102.9 | 111.0 | 120.8 |
| Natural and computer sciences and engineering | 100.0 | 105.5 | 112.6 | 120.1 | 126.1 | 127.3 | 123.1 | 115.0 | 109.4 | 105.4 |
| Natural sciences | 100.0 | 98.8 | 96.9 | 96.5 | 98.8 | 97.8 | 95.3 | 90.1 | 87.5 | 86.8 |
| Life sciences | 100.0 | 96.4 | 92.5 | 89.4 | 89.0 | 89.1 | 88.2 | 85.0 | 83.4 | 86.0 |
| Physical sciences | 100.0 | 100.4 | 97.7 | 98.8 | 99.1 | 90.7 | 83.4 | 74.3 | 71.8 | 67.3 |
| Mathematics | 100.0 | 104.7 | 112.4 | 119.3 | 136.7 | 147.2 | 148.8 | 143.6 | 137.4 | 131.8 |
| Computer science and engineering | 100.0 | 111.3 | 126.3 | 140.5 | 149.8 | 153.0 | 147.3 | 136.7 | 128.4 | 121.6 |
| Computer science | 100.0 | 134.0 | 162.1 | 212.8 | 257.1 | 277.0 | 262.3 | 228.3 | 201.4 | 181.4 |
| Engineering | 100.0 | 106.7 | 119.0 | 125.9 | 128.1 | 127.9 | 124.1 | 118.3 | 113.6 | 109.5 |
| Technical/professional | 100.0 | 101.6 | 104.0 | 102.8 | 102.5 | 103.1 | 103.5 | 104.5 | 107.0 | 109.7 |
| Education | 100.0 | 93.4 | 90.5 | 85.3 | 81.4 | 80.5 | 80.4 | 84.3 | 98.6 | 96.7 |
| Business and other technical/professional | 100.0 | 103.9 | 107.8 | 107.7 | 108.4 | 109.5 | 110.0 | 110.2 | 111.9 | 113.4 |
| Business and management | 100.0 | 107.4 | 113.8 | 115.4 | 117.1 | 119.5 | 121.0 | 122.3 | 124.0 | 125.0 |
| Other technical/professional | 100.0 | 100.1 | 101.3 | 99.4 | 99.0 | 98.7 | 98.1 | 97.1 | 98.8 | 100.9 |
| Not classified by field of study | — | — | — | — | — | — | — | — | — | — |

—Not applicable.

NOTE: See Glossary for definitions of fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, table 236. (based on National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred).

## Table 41-3 Percentage of bachelor's degrees conferred, by field of study: Academic years ending 1971–90

| Field of study | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979* | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Humanities and social/behavioral sciences | 40.1 | 39.5 | 38.7 | 37.9 | 36.7 | 35.3 | 33.8 | 32.6 | 31.3 | 30.3 |
| Humanities | 17.1 | 16.8 | 16.6 | 16.5 | 16.5 | 16.3 | 15.9 | 15.5 | 15.0 | 14.6 |
| Social and behavioral sciences | 23.0 | 22.7 | 22.1 | 21.4 | 20.2 | 19.0 | 17.9 | 17.1 | 16.3 | 15.7 |
| Natural and computer sciences and engineering | 16.0 | 15.4 | 15.3 | 15.5 | 15.4 | 15.5 | 15.9 | 16.3 | 16.8 | 17.3 |
| Natural sciences | 9.8 | 9.2 | 9.3 | 9.6 | 9.8 | 9.9 | 9.8 | 9.5 | 9.1 | 8.7 |
| Life sciences | 4.3 | 4.2 | 4.6 | 5.1 | 5.6 | 5.9 | 5.8 | 5.6 | 5.3 | 5.0 |
| Physical sciences | 2.5 | 2.3 | 2.2 | 2.2 | 2.3 | 2.3 | 2.4 | 2.5 | 2.5 | 2.5 |
| Mathematics | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 |
| Computer science and engineering | 6.2 | 6.1 | 6.0 | 5.8 | 5.6 | 5.6 | 6.1 | 6.8 | 7.7 | 8.6 |
| Computer science | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.2 |
| Engineering | 6.0 | 5.8 | 5.6 | 5.3 | 5.1 | 5.0 | 5.4 | 6.0 | 6.8 | 7.4 |
| Technical/professional | 43.9 | 45.2 | 46.0 | 46.7 | 47.9 | 49.2 | 50.4 | 51.1 | 51.9 | 52.4 |
| Education | 21.0 | 21.6 | 21.1 | 19.6 | 18.1 | 16.7 | 15.6 | 14.8 | 13.7 | 12.7 |
| Business and other technical/professional | 22.9 | 23.6 | 24.9 | 27.1 | 29.8 | 32.5 | 34.7 | 36.3 | 38.2 | 39.6 |
| Business and management | 13.7 | 13.7 | 13.7 | 13.9 | 14.4 | 15.4 | 16.4 | 17.4 | 18.6 | 19.9 |
| Other technical/professional | 9.2 | 9.9 | 11.2 | 13.2 | 15.4 | 17.1 | 18.3 | 18.9 | 19.6 | 19.7 |
| Field unknown | — | — | — | — | — | — | — | — | — | — |

| Field of study | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Humanities and social/behavioral sciences | 29.4 | 29.0 | 27.7 | 27.4 | 26.9 | 27.0 | 27.8 | 28.7 | 30.1 | 31.5 |
| Humanities | 14.3 | 14.2 | 13.7 | 13.7 | 13.5 | 13.4 | 13.8 | 14.1 | 14.7 | 15.2 |
| Social and behavioral sciences | 15.1 | 14.8 | 14.0 | 13.7 | 13.4 | 13.6 | 14.0 | 14.6 | 15.4 | 16.2 |
| Natural and computer sciences and engineering | 18.0 | 18.6 | 19.6 | 20.7 | 21.7 | 21.7 | 20.9 | 19.5 | 18.1 | 16.9 |
| Natural sciences | 8.4 | 8.1 | 7.8 | 7.8 | 7.9 | 7.8 | 7.5 | 7.1 | 6.7 | 6.5 |
| Life sciences | 4.6 | 4.4 | 4.1 | 4.0 | 3.9 | 3.9 | 3.8 | 3.7 | 3.5 | 3.5 |
| Physical sciences | 2.6 | 2.5 | 2.4 | 2.4 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.5 |
| Mathematics | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.7 | 1.7 | 1.6 | 1.5 | 1.4 |
| Computer science and engineering | 9.6 | 10.5 | 11.7 | 13.0 | 13.8 | 14.0 | 13.4 | 12.4 | 11.4 | 10.4 |
| Computer science | 1.6 | 2.1 | 2.5 | 3.3 | 4.0 | 4.2 | 4.0 | 3.5 | 3.0 | 2.6 |
| Engineering | 8.0 | 8.4 | 9.2 | 9.7 | 9.8 | 9.7 | 9.4 | 8.9 | 8.4 | 7.8 |
| Technical/professional | 52.6 | 52.4 | 52.7 | 51.9 | 51.4 | 51.3 | 51.3 | 51.6 | 51.6 | 51.4 |
| Education | 11.6 | 10.6 | 10.1 | 9.5 | 9.0 | 8.8 | 8.8 | 9.2 | 9.5 | 10.0 |
| Business and other technical/professional | 41.0 | 41.8 | 42.6 | 42.4 | 42.4 | 42.5 | 42.5 | 42.5 | 42.1 | 41.4 |
| Business and management | 21.3 | 22.5 | 23.4 | 23.6 | 23.8 | 24.1 | 24.3 | 24.5 | 24.3 | 23.7 |
| Other technical/professional | 19.7 | 19.3 | 19.2 | 18.8 | 18.6 | 18.4 | 18.2 | 18.0 | 17.8 | 17.7 |
| Field unknown | — | — | — | — | — | — | — | 0.2 | 0.2 | 0.3 |

— Not applicable.

*Revised from previously published figures.

NOTE: See Glossary for definitions of fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, table 236.(based on National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred).

## Table 42-1 Percentage of degrees earned by foreign students, by degree level and field of study: Selected academic years ending 1977–90

| Degree level and field | 1977 | 1979 | 1981 | 1985 | 1987 | 1989* | 1990 |
|---|---|---|---|---|---|---|---|
| **Master's degrees** | | | | | | | |
| **All fields** | 5.5 | 6.5 | 7.5 | 9.6 | 10.3 | 11.0 | 11.0 |
| Humanities and social/behavioral sciences | 5.6 | 6.2 | 7.8 | 9.9 | 10.4 | 11.2 | 11.5 |
| Humanities | 4.6 | 5.0 | 6.7 | 8.8 | 9.3 | 10.3 | 10.6 |
| Social and behavioral sciences | 6.9 | 7.9 | 9.4 | 11.4 | 12.2 | 12.5 | 12.8 |
| Natural and computer sciences and engineering | 15.6 | 18.1 | 20.7 | 23.7 | 24.1 | 27.2 | 27.9 |
| Natural sciences | 9.3 | 10.8 | 11.8 | 16.7 | 18.2 | 21.4 | 22.9 |
| Life sciences | 6.7 | 6.8 | 6.2 | 9.5 | 10.8 | 13.6 | 15.1 |
| Physical sciences | 12.4 | 13.1 | 15.0 | 19.4 | 19.9 | 23.0 | 25.8 |
| Mathematics | 10.0 | 15.6 | 18.1 | 24.2 | 26.5 | 29.9 | 28.9 |
| Computer science and engineering | 21.0 | 24.2 | 26.7 | 27.2 | 26.7 | 29.6 | 29.9 |
| Computer science | 13.4 | 15.6 | 21.8 | 24.6 | 26.1 | 29.2 | 28.6 |
| Engineering | 22.3 | 25.9 | 27.9 | 28.0 | 27.0 | 29.8 | 30.4 |
| Technical/professional | 3.9 | 4.7 | 5.3 | 6.6 | 7.2 | 7.4 | 7.2 |
| Education | 1.9 | 2.5 | 2.7 | 3.8 | 3.2 | 3.1 | 3.4 |
| Business and other technical/professional | 6.5 | 7.1 | 7.5 | 8.3 | 9.6 | 10.1 | 9.6 |
| Business and management | 8.2 | 8.8 | 8.8 | 8.7 | 10.7 | 10.9 | 10.4 |
| Other technical/professional | 5.0 | 5.6 | 6.2 | 7.7 | 8.4 | 9.0 | 8.6 |
| **Doctor's degrees** | | | | | | | |
| **All fields** | 11.3 | 12.0 | 12.8 | 16.5 | 19.4 | 21.5 | 23.4 |
| Humanities and social/behavioral sciences | 7.4 | 7.8 | 8.4 | 11.0 | 11.8 | 12.9 | 13.4 |
| Humanities | 6.4 | 7.2 | 8.3 | 9.6 | 11.5 | 11.6 | 12.8 |
| Social and behavioral sciences | 8.1 | 8.4 | 8.4 | 12.1 | 12.0 | 13.8 | 13.8 |
| Natural and computer sciences and engineering | 18.6 | 18.9 | 19.3 | 25.6 | 31.1 | 33.9 | 36.5 |
| Natural sciences | 13.7 | 13.5 | 13.1 | 17.6 | 23.3 | 25.6 | 28.3 |
| Life sciences | 10.1 | 9.7 | 7.8 | 11.2 | 15.4 | 16.0 | 19.6 |
| Physical sciences | 15.9 | 15.7 | 16.9 | 20.2 | 26.6 | 29.5 | 31.4 |
| Mathematics | 19.4 | 22.2 | 23.8 | 36.3 | 44.0 | 47.7 | 50.7 |
| Computer science and engineering | 32.0 | 33.6 | 36.0 | 43.0 | 45.5 | 47.3 | 49.5 |
| Computer science | 20.8 | 20.3 | 20.6 | 29.2 | 33.7 | 37.9 | 44.3 |
| Engineering | 32.9 | 34.8 | 37.5 | 44.0 | 46.7 | 48.5 | 50.2 |
| Technical/professional | 8.7 | 10.0 | 11.1 | 12.5 | 14.0 | 15.3 | 17.0 |
| Education | 4.8 | 6.4 | 7.5 | 8.5 | 8.5 | 8.4 | 8.8 |
| Business and other technical/professional | 18.4 | 17.8 | 18.6 | 18.9 | 22.3 | 24.6 | 27.6 |
| Business and management | 18.5 | 18.9 | 19.1 | 23.9 | 28.8 | 27.2 | 34.2 |
| Other technical/professional | 18.3 | 17.4 | 18.5 | 17.7 | 20.3 | 23.9 | 25.8 |

*Revised from previously published figures.

NOTE: Foreign students are non-United States citizens on temporary visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 42-2 Index of number of degrees (1981=100) earned by foreign students, by degree level and field of study: Selected academic years ending 1977–90

| Degree level and field | 1977 | 1979 | 1981 | 1985 | 1987 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|
| **Master's degrees** | | | | | | | |
| **All fields** | **78.6** | **88.0** | **100.0** | **122.2** | **135.5** | **155.1** | **160.9** |
| Humanities and social/behavioral sciences | 82.3 | 82.6 | 100.0 | 116.6 | 128.2 | 143.6 | 155.8 |
| Humanities | 76.3 | 76.2 | 100.0 | 119.4 | 135.5 | 156.8 | 169.6 |
| Social and behavioral sciences | 88.3 | 89.0 | 100.0 | 113.7 | 120.8 | 130.4 | 141.9 |
| Natural and computer sciences and engineering | 76.4 | 85.5 | 100.0 | 138.1 | 153.3 | 184.7 | 190.8 |
| Natural sciences | 92.9 | 101.5 | 100.0 | 139.6 | 156.6 | 186.7 | 197.8 |
| Life sciences | 129.6 | 126.1 | 100.0 | 128.8 | 145.7 | 182.9 | 199.5 |
| Physical sciences | 83.5 | 89.8 | 100.0 | 139.9 | 142.2 | 167.6 | 178.9 |
| Mathematics | 79.7 | 101.7 | 100.0 | 147.6 | 189.4 | 222.2 | 228.7 |
| Computer science and engineering | 71.5 | 80.8 | 100.0 | 137.6 | 152.3 | 184.1 | 188.7 |
| Computer science | 40.5 | 51.4 | 100.0 | 189.0 | 245.2 | 304.5 | 304.6 |
| Engineering | 77.6 | 86.6 | 100.0 | 127.4 | 133.9 | 160.3 | 165.7 |
| Technical/professional | 78.8 | 91.3 | 100.0 | 114.1 | 126.8 | 140.3 | 143.7 |
| Education | 88.6 | 101.7 | 100.0 | 108.2 | 88.9 | 95.1 | 109.9 |
| Business and other technical/professional | 75.7 | 88.1 | 100.0 | 115.9 | 138.8 | 154.5 | 154.4 |
| Business and management | 74.9 | 86.9 | 100.0 | 115.1 | 142.6 | 158.1 | 159.1 |
| Other technical/professional | 76.9 | 89.8 | 100.0 | 117.0 | 133.3 | 149.3 | 147.6 |
| **Doctor's degrees** | | | | | | | |
| **All fields** | **89.2** | **93.1** | **100.0** | **126.5** | **156.7** | **182.6** | **211.2** |
| Humanities and social/behavioral sciences | 95.8 | 98.9 | 100.0 | 123.5 | 138.0 | 151.5 | 167.4 |
| Humanities | 85.1 | 99.7 | 100.0 | 108.4 | 135.5 | 134.5 | 161.6 |
| Social and behavioral sciences | 103.7 | 98.2 | 100.0 | 134.8 | 139.8 | 164.3 | 171.7 |
| Natural and computer sciences and engineering | 96.3 | 95.4 | 100.0 | 138.8 | 186.4 | 225.8 | 264.6 |
| Natural sciences | 104.2 | 100.0 | 100.0 | 131.8 | 183.5 | 213.1 | 254.4 |
| Life sciences | 118.3 | 118.7 | 100.0 | 130.1 | 182.4 | 195.2 | 260.2 |
| Physical sciences | 100.4 | 91.9 | 100.0 | 128.7 | 184.0 | 214.5 | 246.8 |
| Mathematics | 92.5 | 93.6 | 100.0 | 143.9 | 183.8 | 238.7 | 268.2 |
| Computer science and engineering | 88.5 | 90.8 | 100.0 | 145.6 | 189.3 | 238.2 | 274.5 |
| Computer science | 86.5 | 92.3 | 100.0 | 134.6 | 242.3 | 401.9 | 530.8 |
| Engineering | 88.6 | 90.7 | 100.0 | 146.2 | 186.4 | 229.3 | 260.6 |
| Technical/professional | 73.7 | 85.9 | 100.0 | 109.9 | 124.2 | 137.9 | 159.5 |
| Education | 64.2 | 83.8 | 100.0 | 100.8 | 98.8 | 96.5 | 102.9 |
| Business and other technical/professional | 81.5 | 87.6 | 100.0 | 117.3 | 145.2 | 172.3 | 206.4 |
| Business and management | 100.0 | 101.2 | 100.0 | 126.1 | 195.7 | 193.8 | 242.9 |
| Other technical/professional | 76.2 | 83.6 | 100.0 | 114.8 | 130.5 | 166.1 | 195.8 |

NOTE: Foreign students are non-United States citizens on temporary visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 42-3 Index of number of degrees (1981=100) earned by American students, by degree level and field of study: Selected academic years ending 1977–90

| Degree level and field | 1977 | 1979 | 1981 | 1985 | 1987 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|
| **Master's degrees** | | | | | | | |
| **All fields** | **109.6** | **103.1** | **100.0** | **93.1** | **95.3** | **101.3** | **105.3** |
| Humanities and social/behavioral sciences | 116.6 | 104.9 | 100.0 | 89.7 | 93.0 | 96.3 | 101.7 |
| Humanities | 112.5 | 103.8 | 100.0 | 88.5 | 95.1 | 97.8 | 103.1 |
| Social and behavioral sciences | 122.5 | 106.5 | 100.0 | 91.3 | 90.1 | 94.1 | 99.7 |
| Natural and computer sciences and engineering | 107.7 | 100.9 | 100.0 | 115.5 | 125.7 | 128.9 | 128.6 |
| Natural sciences | 120.0 | 112.1 | 100.0 | 92.6 | 93.5 | 91.4 | 88.7 |
| Life sciences | 118.3 | 113.5 | 100.0 | 80.9 | 78.7 | 76.4 | 73.6 |
| Physical sciences | 104.2 | 105.8 | 100.0 | 103.0 | 101.6 | 99.2 | 91.0 |
| Mathematics | 158.3 | 121.9 | 100.0 | 102.1 | 116.1 | 115.0 | 124.5 |
| Computer science and engineering | 97.7 | 91.8 | 100.0 | 134.1 | 151.7 | 159.1 | 160.8 |
| Computer science | 72.8 | 77.6 | 100.0 | 161.6 | 193.4 | 205.6 | 212.7 |
| Engineering | 104.5 | 95.7 | 100.0 | 126.5 | 140.3 | 146.3 | 146.6 |
| Technical/professional | 108.4 | 103.0 | 100.0 | 90.9 | 91.7 | 98.6 | 102.9 |
| Education | 129.6 | 113.7 | 100.0 | 76.2 | 76.4 | 83.6 | 86.8 |
| Business and other technical/professional | 89.1 | 93.2 | 100.0 | 104.2 | 105.7 | 112.3 | 117.5 |
| Business and management | 80.7 | 87.0 | 100.0 | 115.8 | 114.9 | 124.8 | 131.8 |
| Other technical/professional | 97.4 | 99.5 | 100.0 | 92.7 | 96.6 | 99.8 | 103.3 |
| **Doctor's degrees** | | | | | | | |
| **All fields** | **102.5** | **100.4** | **100.0** | **94.3** | **95.8** | **97.7** | **101.6** |
| Humanities and social/behavioral sciences | 109.8 | 106.2 | 100.0 | 90.6 | 94.1 | 93.6 | 98.8 |
| Humanities | 112.0 | 115.3 | 100.0 | 91.6 | 93.6 | 92.1 | 98.8 |
| Social and behavioral sciences | 108.1 | 99.2 | 100.0 | 89.9 | 94.5 | 94.7 | 98.8 |
| Natural and computer sciences and engineering | 100.4 | 97.7 | 100.0 | 96.1 | 98.6 | 104.9 | 110.0 |
| Natural sciences | 99.0 | 96.8 | 100.0 | 92.7 | 90.9 | 93.0 | 97.1 |
| Life sciences | 89.1 | 93.3 | 100.0 | 86.8 | 84.3 | 86.2 | 90.2 |
| Physical sciences | 107.5 | 100.2 | 100.0 | 103.4 | 103.3 | 104.3 | 109.6 |
| Mathematics | 119.5 | 102.3 | 100.0 | 78.7 | 73.0 | 81.6 | 81.3 |
| Computer science and engineering | 105.7 | 100.9 | 100.0 | 108.4 | 127.2 | 148.9 | 157.2 |
| Computer science | 85.5 | 94.0 | 100.0 | 85.0 | 124.0 | 171.0 | 173.5 |
| Engineering | 108.3 | 101.8 | 100.0 | 111.3 | 127.6 | 146.1 | 155.1 |
| Technical/professional | 97.4 | 97.1 | 100.0 | 96.2 | 95.2 | 95.8 | 97.6 |
| Education | 103.7 | 99.0 | 100.0 | 88.1 | 86.5 | 85.2 | 86.4 |
| Business and other technical/professional | 82.9 | 92.7 | 100.0 | 115.2 | 115.6 | 120.6 | 123.9 |
| Business and management | 103.5 | 102.5 | 100.0 | 94.6 | 114.1 | 122.5 | 110.0 |
| Other technical/professional | 77.1 | 90.0 | 100.0 | 120.9 | 116.1 | 120.0 | 127.8 |

NOTE: Foreign students are non-United States citizens on temporary visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 42-4 Number of degrees earned by foreign students, by degree level and field of study: Selected academic years ending 1977–90

| Degree level and field | 1977 | 1979 | 1981 | 1985 | 1987 | 1989* | 1990 |
|---|---|---|---|---|---|---|---|
| **Master's degrees** | | | | | | | |
| **All fields** | **17,338** | **19,405** | **22,057** | **26,952** | **29,898** | **34,214** | **35,484** |
| Humanities and social/behavioral sciences | 3,076 | 3,085 | 3,737 | 4,357 | 4,790 | 5,368 | 5,822 |
| Humanities | 1,429 | 1,426 | 1,872 | 2,236 | 2,537 | 2,936 | 3,175 |
| Social and behavioral sciences | 1,647 | 1,659 | 1,865 | 2,121 | 2,253 | 2,432 | 2,647 |
| Natural and compuer sciences and engineering | 5,410 | 6,059 | 7,085 | 9,781 | 10,861 | 13,087 | 13,516 |
| Natural sciences | 1,503 | 1,642 | 1,618 | 2,259 | 2,533 | 3,021 | 3,201 |
| Life sciences | 477 | 464 | 368 | 474 | 536 | 673 | 734 |
| Physical sciences | 656 | 706 | 786 | 1,100 | 1,118 | 1,317 | 1,406 |
| Mathematics | 370 | 472 | 464 | 685 | 879 | 1,031 | 1,061 |
| Computer science and engineering | 3,907 | 4,417 | 5,467 | 7,522 | 8,328 | 10,066 | 10,315 |
| Computer science | 366 | 465 | 904 | 1,709 | 2,217 | 2,753 | 2,754 |
| Engineering | 3,541 | 3,952 | 4,563 | 5,813 | 6,111 | 7,313 | 7,561 |
| Technical/professional | 8,852 | 10,261 | 11,235 | 12,814 | 14,247 | 15,759 | 16,146 |
| Education | 2,391 | 2,744 | 2,699 | 2,919 | 2,399 | 2,568 | 2,965 |
| Business and other technical/professional | 6,461 | 7,517 | 8,536 | 9,895 | 11,848 | 13,191 | 13,181 |
| Business and management | 3,781 | 4,388 | 5,051 | 5,816 | 7,201 | 7,988 | 8,036 |
| Other technical/professional | 2,680 | 3,129 | 3,485 | 4,079 | 4,647 | 5,203 | 5,145 |
| **Doctor's degrees** | | | | | | | |
| **All fields** | **3,747** | **3,915** | **4,203** | **5,317** | **6,587** | **7,675** | **8,875** |
| Humanities and social/behavioral sciences | 857 | 885 | 895 | 1,105 | 1,235 | 1,356 | 1,498 |
| Humanities | 326 | 382 | 383 | 415 | 519 | 515 | 619 |
| Social and behavioral sciences | 531 | 503 | 512 | 690 | 716 | 841 | 879 |
| Natural and computer sciences and engineering | 1,926 | 1,907 | 2,000 | 2,775 | 3,728 | 4,515 | 5,291 |
| Natural sciences | 1,034 | 992 | 992 | 1,307 | 1,820 | 2,114 | 2,524 |
| Life sciences | 342 | 343 | 289 | 376 | 527 | 564 | 752 |
| Physical sciences | 532 | 487 | 530 | 682 | 975 | 1,137 | 1,308 |
| Mathematics | 160 | 162 | 173 | 249 | 318 | 413 | 464 |
| Computer science and engineering | 892 | 915 | 1,008 | 1,468 | 1,908 | 2,401 | 2,767 |
| Computer science | 45 | 48 | 52 | 70 | 126 | 209 | 276 |
| Engineering | 847 | 867 | 956 | 1,398 | 1,782 | 2,192 | 2,491 |
| Technical/professional | 964 | 1,123 | 1,308 | 1,437 | 1,624 | 1,804 | 2,086 |
| Education | 381 | 497 | 593 | 598 | 586 | 572 | 610 |
| Business and other technical/professional | 583 | 626 | 715 | 839 | 1,038 | 1,232 | 1,476 |
| Business and management | 161 | 163 | 161 | 203 | 315 | 312 | 391 |
| Other technical/professional | 422 | 463 | 554 | 636 | 723 | 920 | 1,085 |

*Revised from previously published figures.

NOTE: Foreign students are non-United States citizens on temporary visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 42-5 Number of degrees earned by American students, by degree level and field of study: Selected academic years ending 1977–90

| Degree level and field | 1977 | 1979 | 1981 | 1985 | 1987 | 1989* | 1990 |
|---|---|---|---|---|---|---|---|
| **Master's degrees** | | | | | | | |
| **All fields** | **298,322** | **280,482** | **272,126** | **253,469** | **259,443** | **275,556** | **286,508** |
| Humanities and social/behavioral sciences | 51,475 | 46,302 | 44,143 | 39,578 | 41,069 | 42,504 | 44,901 |
| Humanities | 29,363 | 27,074 | 26,093 | 23,097 | 24,803 | 25,517 | 26,898 |
| Social and behavioral sciences | 22,112 | 19,228 | 18,050 | 16,481 | 16,266 | 16,987 | 18,003 |
| Natural and computer sciences and engineering | 29,274 | 27,430 | 27,186 | 31,412 | 34,177 | 35,030 | 34,960 |
| Natural sciences | 14,588 | 13,628 | 12,152 | 11,257 | 11,366 | 11,110 | 10,784 |
| Life sciences | 6,637 | 6,367 | 5,610 | 4,536 | 4,414 | 4,288 | 4,127 |
| Physical sciences | 4,626 | 4,700 | 4,441 | 4,575 | 4,512 | 4,406 | 4,041 |
| Mathematics | 3,325 | 2,561 | 2,101 | 2,146 | 2,440 | 2,416 | 2,616 |
| Computer science and engineering | 14,686 | 13,802 | 15,034 | 20,155 | 22,811 | 23,920 | 24,176 |
| Computer science | 2,358 | 2,515 | 3,239 | 5,233 | 6,264 | 6,661 | 6,889 |
| Engineering | 12,328 | 11,287 | 11,795 | 14,922 | 16,547 | 17,259 | 17,287 |
| Technical/professional | 217,573 | 206,750 | 200,797 | 182,479 | 184,197 | 198,022 | 206,647 |
| Education | 123,964 | 108,743 | 95,681 | 72,902 | 73,074 | 79,965 | 83,092 |
| Business and other technical/professional | 93,609 | 98,007 | 105,116 | 109,577 | 111,123 | 118,057 | 123,555 |
| Business and management | 42,376 | 45,655 | 52,490 | 60,780 | 60,303 | 65,533 | 69,167 |
| Other technical/professional | 51,233 | 52,352 | 52,626 | 48,797 | 50,820 | 52,524 | 54,388 |
| **Doctor's degrees** | | | | | | | |
| **All fields** | **29,364** | **28,749** | **28,636** | **26,990** | **27,446** | **27,984** | **29,105** |
| Humanities and social/behavioral sciences | 10,777 | 10,425 | 9,816 | 8,897 | 9,236 | 9,186 | 9,698 |
| Humanities | 4,763 | 4,906 | 4,254 | 3,895 | 3,981 | 3,920 | 4,201 |
| Social and behavioral sciences | 6,014 | 5,519 | 5,562 | 5,002 | 5,255 | 5,266 | 5,497 |
| Natural and computer sciences and engineering | 8,423 | 8,194 | 8,389 | 8,061 | 8,275 | 8,803 | 9,224 |
| Natural sciences | 6,525 | 6,382 | 6,594 | 6,115 | 5,991 | 6,130 | 6,403 |
| Life sciences | 3,055 | 3,199 | 3,429 | 2,978 | 2,890 | 2,956 | 3,092 |
| Physical sciences | 2,807 | 2,615 | 2,610 | 2,700 | 2,696 | 2,721 | 2,860 |
| Mathematics | 663 | 568 | 555 | 437 | 405 | 453 | 451 |
| Computer science and engineering | 1,898 | 1,812 | 1,795 | 1,946 | 2,284 | 2,673 | 2,821 |
| Computer science | 171 | 188 | 200 | 170 | 248 | 342 | 347 |
| Engineering | 1,727 | 1,624 | 1,595 | 1,776 | 2,036 | 2,331 | 2,474 |
| Technical/professional | 10,164 | 10,130 | 10,431 | 10,032 | 9,935 | 9,995 | 10,183 |
| Education | 7,574 | 7,234 | 7,307 | 6,434 | 6,323 | 6,228 | 6,312 |
| Business and other technical/professional | 2,590 | 2,896 | 3,124 | 3,598 | 3,612 | 3,767 | 3,871 |
| Business and management | 707 | 700 | 683 | 646 | 779 | 837 | 751 |
| Other technical/professional | 1,883 | 2,196 | 2,441 | 2,952 | 2,833 | 2,930 | 3,120 |

*Revised from previously published figures.

NOTE: Foreign students are non-United States citizens on temporary visas. American students include non-United States citizens with permanent U.S. visas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS/HEGIS surveys of degrees conferred).

## Table 42-6 Percentage of new foreign doctorate recipients who have definite postgraduation plans in the United States, by type of plan and major field: Academic years ending 1977–91

| Year | Total[1] | Postdoctoral study | Employment |
|---|---|---|---|
| | | **Natural and computer sciences and engineering** | |
| 1977 | 28.0 | 15.9 | 11.8 |
| 1978 | 31.5 | 19.1 | 12.4 |
| 1979 | 33.0 | 18.1 | 14.7 |
| 1980 | 34.2 | 18.1 | 15.8 |
| 1981 | 33.2 | 14.8 | 18.2 |
| 1982 | 32.7 | 14.6 | 17.9 |
| 1983 | 31.0 | 15.0 | 16.0 |
| 1984 | 33.3 | 17.6 | 15.6 |
| 1985 | 33.2 | 17.7 | 15.3 |
| 1986[2] | 37.1 | 21.5 | 15.5 |
| 1987[2] | 35.9 | 22.5 | 13.2 |
| 1988 | 36.7 | 23.1 | 13.5 |
| 1989[2] | 38.6 | 24.0 | 14.5 |
| 1990 | 33.3 | 19.3 | 13.9 |
| 1991 | 37.0 | 21.0 | 15.8 |
| | | **All other fields** | |
| 1977 | 12.2 | 1.5 | 10.3 |
| 1978 | 14.4 | 1.7 | 12.6 |
| 1979 | 13.1 | 1.9 | 11.0 |
| 1980 | 11.8 | 2.8 | 8.9 |
| 1981 | 13.8 | 2.8 | 10.8 |
| 1982 | 12.0 | 2.4 | 9.6 |
| 1983 | 13.0 | 2.3 | 10.8 |
| 1984 | 12.7 | 2.5 | 10.1 |
| 1985 | 15.7 | 2.5 | 13.1 |
| 1986[2] | 18.4 | 3.2 | 14.9 |
| 1987[2] | 20.8 | 3.7 | 17.0 |
| 1988 | 21.6 | 3.6 | 17.9 |
| 1989[2] | 21.5 | 3.6 | 17.8 |
| 1990 | 22.6 | 3.6 | 18.9 |
| 1991 | 25.0 | 3.9 | 21.1 |

[1] Includes a small proportion (.4 percent or less) whose type of plans in the U.S. are unknown.

[2] Revised from previously published figures.

NOTE: Foreign students are non-United States citizens holding temporary U.S. visas.

SOURCE: National Science Foundation, *Science and Enginering Doctorates: 1960–90 and 1960–91* and unpublished tabulations.

## Table 43-1 Percentage of students in grades 1 to 12 who are black or Hispanic, by conntrol of school and residence: 1970–91

| Year | Public schools | | | | Private schools |
|---|---|---|---|---|---|
| | Total | Central cities | Other metropolitan | Non-metropolitan | |
| 1970 | — | — | — | — | — |
| 1971 | — | — | — | — | — |
| 1972 | 20.5 | 42.0 | 10.6 | 14.9 | 9.9 |
| 1973 | 20.3 | 41.8 | 10.1 | 14.6 | 10.6 |
| 1974 | 21.5 | 44.0 | 10.9 | 16.2 | 11.5 |
| 1975 | 22.0 | 44.5 | 12.0 | 15.9 | 10.9 |
| 1976 | 22.4 | 44.9 | 13.4 | 15.3 | 11.0 |
| 1977 | 21.9 | 47.0 | 12.6 | 15.5 | 13.1 |
| 1978 | 22.3 | 47.4 | 13.3 | 15.3 | 11.1 |
| 1979 | 22.7 | 49.5 | 14.1 | 14.4 | 13.0 |
| 1980 | — | — | — | — | — |
| 1981 | 24.6 | 51.4 | 15.6 | 16.0 | 13.9 |
| 1982 | 24.7 | 51.0 | 15.5 | 16.1 | 13.9 |
| 1983 | 25.2 | 51.5 | 16.6 | 15.6 | 13.7 |
| 1984 | — | — | — | — | 12.1 |
| 1985 | 26.8 | 56.7 | 18.1 | 16.8 | 11.5 |
| 1986 | 27.1 | 52.4 | 16.5 | 18.3 | 13.8 |
| 1987 | 27.1 | 51.7 | 17.5 | 16.7 | 14.3 |
| 1988 | 27.4 | 51.1 | 18.6 | 16.9 | 14.8 |
| 1989 | 27.8 | 51.8 | 20.0 | 15.3 | 14.1 |
| 1990 | 27.8 | 52.1 | 19.5 | 16.4 | 14.3 |
| 1991 | 28.1 | 52.9 | 19.6 | 15.9 | 14.3 |

— Not available.

NOTE: Because a small number of students (less than 1 percent) are both black and Hispanic, the percentages in this table are slightly smaller than the sum of the "percent black" and "percent Hispanic" columns from the text table of *Indicaor 43*.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "School Enrollment ...," various years; October Current Population Surveys.

## Table 43-2 Enrollment in public elementary and secondary schools, by race/ethnicity: 1976, 1984, 1986, 1988, and 1990

| Race/ethnicity | 1976 | 1984 | 1986 | 1988 | 1990 | 1976–90 |
|---|---|---|---|---|---|---|
| | | | **(In thousands)** | | | Percent change |
| **Total** | **43,714** | **39,452** | **41,156** | **40,484** | **40,848** | **-6.6** |
| White, non-Hispanic | 33,229 | 28,106 | 28,957 | 28,628 | 27,719 | -16.6 |
| Total minority | 10,485 | 11,346 | 12,200 | 11,857 | 13,117 | 25.1 |
| Black, non-Hispanic | 6,774 | 6,389 | 6,622 | 6,158 | 6,614 | -2.4 |
| Hispanic | 2,807 | 3,599 | 4,064 | 4,071 | 4,714 | 67.9 |
| Asian/Pacific Islander | 535 | 994 | 1,158 | 1,267 | 1,379 | 157.8 |
| American Indian/Alaskan Native | 368 | 364 | 356 | 361 | 409 | 11.1 |
| | | | **(Percent)** | | | Change in percentage points |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | — |
| White, non-Hispanic | 76.0 | 71.2 | 70.4 | 70.7 | 67.9 | -8.2 |
| Total minority | 24.0 | 28.8 | 29.6 | 29.3 | 32.1 | 8.1 |
| Black, non-Hispanic | 15.5 | 16.2 | 16.1 | 15.2 | 16.2 | 0.7 |
| Hispanic | 6.4 | 9.1 | 9.9 | 10.1 | 11.5 | 5.1 |
| Asian/Pacific Islander | 1.2 | 2.5 | 2.8 | 3.1 | 3.4 | 2.2 |
| American Indian/Alaskan Native | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 0.2 |

— Not applicable.

SOURCE: U.S. Department of Education, Office for Civil Rights, *Directory of Elementary and Secondary School Districts and Schools in Selected Districts: 1976–77, 1984; 1986,1988*, 1990 Elementary and Secondary School Civil Rights Survey, unpublished tabulations.

## Table 43-3 Standard errors for estimated percentages in text table for *Indicator 43*

| Year | Black | | | | | Hispanic | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Public schools | | | | Private schools | Public schools | | | | Private schools |
| | Total | Central cities | Other metropolitan | Nonmetropolitan | | Total | Central cities | Other metropolitan | Nonmetropolitan | |
| 1970 | 0.3 | 0.8 | 0.3 | 0.5 | 0.5 | — | — | — | — | — |
| 1971 | 0.3 | 0.8 | 0.3 | 0.5 | 0.5 | — | — | — | — | — |
| 1972 | 0.3 | 0.7 | 0.3 | 0.5 | 0.5 | 0.2 | 0.6 | 0.3 | 0.4 | 0.6 |
| 1973 | 0.3 | 0.7 | 0.3 | 0.5 | 0.6 | 0.2 | 0.6 | 0.3 | 0.4 | 0.6 |
| 1974 | 0.3 | 0.7 | 0.3 | 0.5 | 0.5 | 0.3 | 0.6 | 0.3 | 0.4 | 0.8 |
| 1975 | 0.3 | 0.7 | 0.3 | 0.5 | 0.5 | 0.3 | 0.6 | 0.3 | 0.4 | 0.7 |
| 1976 | 0.3 | 0.8 | 0.4 | 0.5 | 0.6 | 0.3 | 0.6 | 0.4 | 0.4 | 0.7 |
| 1977 | 0.3 | 0.8 | 0.3 | 0.5 | 0.6 | 0.3 | 0.6 | 0.4 | 0.3 | 0.7 |
| 1978 | 0.3 | 0.8 | 0.4 | 0.5 | 0.6 | 0.3 | 0.6 | 0.4 | 0.3 | 0.6 |
| 1979 | 0.3 | 0.8 | 0.4 | 0.5 | 0.7 | 0.3 | 0.7 | 0.4 | 0.4 | 0.7 |
| 1980 | — | — | — | — | — | — | — | — | — | — |
| 1981 | 0.3 | 0.9 | 0.4 | 0.5 | 0.6 | 0.3 | 0.8 | 0.4 | 0.4 | 0.8 |
| 1982 | 0.3 | 0.9 | 0.4 | 0.6 | 0.7 | 0.3 | 0.8 | 0.4 | 0.4 | 0.8 |
| 1983 | 0.3 | 0.9 | 0.4 | 0.6 | 0.7 | 0.3 | 0.8 | 0.4 | 0.4 | 0.8 |
| 1984 | — | — | — | — | — | — | — | — | — | — |
| 1985 | 0.3 | 0.9 | 0.4 | 0.6 | 0.6 | 0.4 | 0.9 | 0.5 | 0.5 | 0.8 |
| 1986 | 0.4 | 0.9 | 0.4 | 0.6 | 0.7 | 0.4 | 0.8 | 0.4 | 0.5 | 0.8 |
| 1987 | 0.4 | 0.9 | 0.4 | 0.6 | 0.7 | 0.4 | 0.9 | 0.5 | 0.6 | 1.0 |
| 1988 | 0.0 | 0.8 | 0.4 | 0.6 | 0.9 | 0.4 | 0.9 | 0.5 | 0.6 | 0.9 |
| 1989 | 0.4 | 0.8 | 0.4 | 0.6 | 0.9 | 0.4 | 0.9 | 0.5 | 0.6 | 1.0 |
| 1990 | 0.4 | 0.8 | 0.4 | 0.6 | 0.8 | 0.4 | 0.9 | 0.6 | 0.6 | 1.0 |
| 1991 | 0.4 | 0.8 | 0.4 | 0.6 | 0.8 | 0.4 | 0.9 | 0.5 | 0.6 | 1.0 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "School Enrollment ...," various years; October Current Population Surveys.

## Table 43-4 Standard errors for estimated percentages in table 43-1

| Year | Public schools | | | | Private schools |
|---|---|---|---|---|---|
| | Total | Central cities | Other metropolitan | Non-metropolitan | |
| 1970 | — | — | — | — | — |
| 1971 | — | — | — | — | — |
| 1972 | 0.3 | 0.8 | 0.4 | 0.6 | 0.7 |
| 1973 | 0.3 | 0.8 | 0.4 | 0.6 | 0.8 |
| 1974 | 0.3 | 0.8 | 0.4 | 0.6 | 0.8 |
| 1975 | 0.3 | 0.8 | 0.4 | 0.6 | 0.8 |
| 1976 | 0.3 | 0.8 | 0.5 | 0.6 | 0.8 |
| 1977 | 0.3 | 0.8 | 0.4 | 0.6 | 0.8 |
| 1978 | 0.3 | 0.8 | 0.4 | 0.6 | 0.8 |
| 1979 | 0.4 | 0.9 | 0.5 | 0.6 | 0.9 |
| 1980 | — | — | — | — | — |
| 1981 | 0.4 | 0.9 | 0.5 | 0.6 | 0.9 |
| 1982 | 0.4 | 0.9 | 0.5 | 0.7 | 0.9 |
| 1983 | 0.4 | 0.9 | 0.5 | 0.7 | 0.9 |
| 1984 | — | — | — | — | 0.9 |
| 1985 | 0.4 | 0.9 | 0.6 | 0.7 | 0.9 |
| 1986 | 0.4 | 0.9 | 0.5 | 0.9 | 0.9 |
| 1987 | 0.4 | 0.9 | 0.5 | 0.8 | 1.0 |
| 1988 | 0.4 | 0.9 | 0.5 | 0.8 | 1.0 |
| 1989 | 0.4 | 0.9 | 0.5 | 0.8 | 1.0 |
| 1990 | 0.4 | 0.9 | 0.6 | 0.9 | 1.1 |
| 1991 | 0.4 | 0.9 | 0.5 | 0.9 | 1.0 |

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "School Enrollment ...," various years; October Current Population Surveys.

## Table 44-1 Total enrollment in institutions of higher education, by control of institution, type of institution, and race/ethnicity of student: Fall, selected years 1976–91

| Control and type of institution, and race/ethnicity of student | Number, in thousands | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1976 | 1978 | 1980 | 1982 | 1984 | 1986 | 1988 | 1990 | 1991 |
| **All institutions** | **10,986** | **11,231** | **12,087** | **12,388** | **12,235** | **12,504** | **13,043** | **13,710** | **14,359** |
| White | 9,076 | 9,194 | 9,833 | 9,997 | 9,815 | 9,921 | 10,283 | 10,675 | 10,990 |
| Minority | 1,691 | 1,785 | 1,949 | 2,059 | 2,085 | 2,238 | 2,399 | 2,639 | 2,953 |
| Black | 1,033 | 1,054 | 1,107 | 1,101 | 1,076 | 1,082 | 1,130 | 1,223 | 1,335 |
| Hispanic | 384 | 417 | 172 | 519 | 535 | 618 | 680 | 758 | 867 |
| Asian or Pacific Islander | 198 | 235 | 286 | 351 | 390 | 448 | 497 | 555 | 637 |
| American Indian/Alaskan Native | 76 | 78 | 84 | 88 | 84 | 90 | 93 | 103 | 114 |
| Nonresident alien | 219 | 253 | 305 | 331 | 335 | 345 | 361 | 397 | 416 |
| **Public institutions** | 8,641 | 8,770 | 9,456 | 9,695 | 9,458 | 9,714 | 10,156 | 10,741 | 11,310 |
| White | 7,095 | 7,136 | 7,656 | 7,785 | 7,543 | 7,654 | 7,964 | 8,340 | 8,622 |
| Minority | 1,401 | 1,466 | 1,596 | 1,692 | 1,696 | 1,836 | 1,955 | 2,136 | 2,412 |
| Black | 831 | 840 | 876 | 873 | 844 | 854 | 881 | 952 | 1,053 |
| Hispanic | 337 | 363 | 406 | 446 | 456 | 532 | 587 | 648 | 742 |
| Asian or Pacific Islander | 166 | 195 | 240 | 296 | 323 | 371 | 406 | 445 | 516 |
| American Indian/Alaskan Native | 68 | 68 | 74 | 77 | 72 | 79 | 81 | 90 | 100 |
| Nonresident alien | 145 | 167 | 204 | 219 | 219 | 224 | 238 | 265 | 275 |
| **Private institutions** | 2,345 | 2,461 | 2,630 | 2,693 | 2,777 | 2,790 | 2,887 | 2,970 | 3,049 |
| White | 1,982 | 2,058 | 2,177 | 2,212 | 2,272 | 2,267 | 2,319 | 2,335 | 2,368 |
| Minority | 290 | 319 | 353 | 368 | 389 | 403 | 444 | 503 | 541 |
| Black | 202 | 215 | 231 | 228 | 232 | 228 | 248 | 271 | 282 |
| Hispanic | 47 | 55 | 66 | 74 | 79 | 86 | 93 | 110 | 125 |
| Asian or Pacific Islander | 32 | 40 | 47 | 55 | 67 | 77 | 91 | 110 | 121 |
| American Indian/Alaskan Native | 9 | 9 | 10 | 10 | 11 | 11 | 11 | 12 | 14 |
| Nonresident alien | 73 | 85 | 101 | 113 | 116 | 120 | 123 | 132 | 141 |
| **4-year institutions** | 7,107 | 7,203 | 7,565 | 7,648 | 7,708 | 7,824 | 8,175 | 8,529 | 8,707 |
| White | 5,999 | 6,027 | 6,275 | 6,306 | 6,301 | 6,337 | 6,582 | 6,757 | 6,791 |
| Minority | 931 | 975 | 1,050 | 1,073 | 1,124 | 1,195 | 1,292 | 1,450 | 1,573 |
| Black | 604 | 612 | 634 | 612 | 617 | 615 | 656 | 715 | 758 |
| Hispanic | 174 | 190 | 217 | 229 | 246 | 278 | 296 | 345 | 383 |
| Asian or Pacific Islander | 119 | 138 | 162 | 193 | 223 | 262 | 297 | 343 | 381 |
| American Indian/Alaskan Native | 35 | 35 | 37 | 39 | 38 | 40 | 42 | 48 | 51 |
| Nonresident alien | 177 | 201 | 241 | 270 | 282 | 292 | 302 | 322 | 343 |
| **2-year institutions** | 3,879 | 4,028 | 4,521 | 4,740 | 4,527 | 4,680 | 4,868 | 5,181 | 5,652 |
| White | 3,077 | 3,167 | 3,558 | 3,692 | 3,514 | 3,584 | 3,702 | 3,918 | 4,199 |
| Minority | 760 | 810 | 899 | 987 | 961 | 1,043 | 1,107 | 1,189 | 1,380 |
| Black | 429 | 443 | 472 | 489 | 459 | 467 | 473 | 509 | 578 |
| Hispanic | 210 | 227 | 255 | 291 | 289 | 340 | 384 | 414 | 484 |
| Asian or Pacific Islander | 79 | 97 | 124 | 158 | 167 | 186 | 199 | 212 | 256 |
| American Indian/Alaskan Native | 41 | 43 | 47 | 49 | 46 | 51 | 50 | 54 | 63 |
| Nonresident alien | 42 | 52 | 64 | 61 | 53 | 53 | 60 | 75 | 74 |

NOTE: Because of underreporting and nonreporting of racial/ethnic data, figures are slightly lower than corresponding data in other tables. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992, table 193 and unpublished tabulations (based on the IPEDS/HEGIS survey of fall enrollment in postsecondary and higher education, various years).

## Table 44-2 Percentage distribution of total enrollment in institutions of higher education, by control of institution, type of institution, and race/ethnicity of student: Fall, selected years 1976–91

| Control and type of institution, and race/ethnicity of student | 1976 | 1978 | 1980 | 1982 | 1984 | 1986 | 1988 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|---|---|
| **All institutions** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| White | 82.6 | 81.9 | 81.4 | 80.7 | 80.2 | 79.3 | 78.8 | 77.9 | 76.5 |
| Minority | 15.4 | 15.9 | 16.1 | 16.6 | 17.0 | 17.9 | 18.4 | 19.2 | 20.6 |
| Black | 9.4 | 9.4 | 9.2 | 8.9 | 8.8 | 8.7 | 8.7 | 8.9 | 9.3 |
| Hispanic | 3.5 | 3.7 | 3.9 | 4.2 | 4.4 | 4.9 | 5.2 | 5.5 | 6.0 |
| Asian or Pacific Islander | 1.8 | 2.1 | 2.4 | 2.8 | 3.2 | 3.6 | 3.8 | 4.0 | 4.4 |
| American Indian/Alaskan Native | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 |
| Nonresident alien | 2.0 | 2.2 | 2.5 | 2.7 | 2.7 | 2.8 | 2.8 | 2.9 | 2.9 |
| **Public institutions** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| White | 82.1 | 81.4 | 81.0 | 80.3 | 79.8 | 78.8 | 78.4 | 77.6 | 76.2 |
| Minority | 16.2 | 16.7 | 16.9 | 17.4 | 17.9 | 18.9 | 19.2 | 19.9 | 21.3 |
| Black | 9.6 | 9.6 | 9.3 | 9.0 | 8.9 | 8.8 | 8.7 | 8.9 | 9.3 |
| Hispanic | 3.9 | 4.1 | 4.3 | 4.6 | 4.8 | 5.5 | 5.8 | 6.0 | 6.6 |
| Asian or Pacific Islander | 1.9 | 2.2 | 2.5 | 3.0 | 3.4 | 3.8 | 4.0 | 4.1 | 4.6 |
| American Indian/Alaskan Native | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 |
| Nonresident alien | 1.7 | 1.9 | 2.2 | 2.3 | 2.3 | 2.3 | 2.3 | 2.5 | 2.4 |
| **Private institutions** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| White | 84.5 | 83.6 | 82.8 | 82.2 | 81.8 | 81.3 | 80.3 | 78.6 | 77.6 |
| Minority | 12.4 | 12.9 | 13.4 | 13.7 | 14.0 | 14.4 | 15.4 | 16.9 | 17.7 |
| Black | 8.6 | 8.7 | 8.8 | 8.5 | 8.3 | 8.2 | 8.6 | 9.1 | 9.2 |
| Hispanic | 2.0 | 2.2 | 2.5 | 2.7 | 2.8 | 3.1 | 3.2 | 3.7 | 4.1 |
| Asian or Pacific Islander | 1.4 | 1.6 | 1.8 | 2.1 | 2.4 | 2.8 | 3.2 | 3.7 | 4.0 |
| American Indian/Alaskan Native | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Nonresident alien | 3.1 | 3.4 | 3.8 | 4.2 | 4.2 | 4.3 | 4.3 | 4.4 | 4.6 |
| **4-year institutions** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| White | 84.4 | 83.7 | 82.9 | 82.4 | 81.7 | 81.0 | 80.5 | 79.2 | 78.0 |
| Minority | 13.1 | 13.5 | 13.91 | 14.0 | 14.6 | 15.3 | 15.8 | 17.0 | 18.1 |
| Black | 8.5 | 8.5 | 8.4 | 8.0 | 8.0 | 7.9 | 8.0 | 8.4 | 8.7 |
| Hispanic | 2.4 | 2.6 | 2.9 | 3.0 | 3.2 | 3.6 | 3.6 | 4.0 | 4.4 |
| Asian or Pacific Islander | 1.7 | 1.9 | 2.1 | 2.5 | 2.9 | 3.3 | 3.6 | 4.0 | 4.4 |
| American Indian/Alaskan Native | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 |
| Nonresident alien | 2.5 | 2.8 | 3.2 | 3.5 | 3.7 | 3.7 | 3.7 | 3.8 | 3.9 |
| **2-year institutions** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| White | 79.3 | 78.6 | 78.7 | 77.9 | 77.6 | 76.6 | 76.0 | 75.6 | 74.3 |
| Minority | 19.6 | 20.1 | 19.9 | 20.8 | 21.2 | 22.3 | 22.7 | 22.9 | 24.4 |
| Black | 11.1 | 11.0 | 10.4 | 10.3 | 10.1 | 10.0 | 9.7 | 9.8 | 10.2 |
| Hispanic | 5.4 | 5.6 | 5.6 | 6.1 | 6.4 | 7.3 | 7.9 | 8.0 | 8.6 |
| Asian or Pacific Islander | 2.0 | 2.4 | 2.8 | 3.3 | 3.7 | 4.0 | 4.1 | 4.1 | 4.5 |
| American Indian/Alaskan Native | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.1 | 1.0 | 1.0 | 1.1 |
| Nonresident alien | 1.1 | 1.3 | 1.4 | 1.3 | 1.2 | 1.1 | 1.2 | 1.4 | 1.3 |

NOTE: Because of underreporting and nonreporting of racial/ethnic data, figures are slightly lower than corresponding data in other tables. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992, table 193 and unpublished tabulations (based on the IPEDS/HEGIS survey of fall enrollment in postsecondary and higher education, various years).

## Table 45-1 Percentage of undergraduate postsecondary students enrolled in different types of institutions, by parents' education and family income: Fall 1989

| Student characteristics | Number of students (thousands) | Private, for profit | | | Public | | | | | Private, not-for-profit | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 4-year | | | | 4-year | |
| | | All | Less than 2-year | 2-year or more | All | Less than 2-year | 2-year | Non-PhD | PhD | All | 2-year or less | Non-PhD | PhD |
| **Total** | **12,600** | **6.1** | **3.5** | **2.6** | **76.8** | **1.0** | **39.7** | **15.8** | **20.4** | **17.1** | **1.3** | **9.9** | **5.9** |
| Dependent students' family income | | | | | | | | | | | | | |
| Low | 1,629 | 6.9 | 3.6 | 3.3 | 72.8 | 0.7 | 30.1 | 19.1 | 22.9 | 20.3 | 1.4 | 12.6 | 6.3 |
| Lower middle | 1,595 | 3.6 | 1.5 | 2.1 | 78.3 | 0.9 | 30.8 | 19.9 | 26.8 | 18.1 | 1.4 | 10.8 | 5.9 |
| Upper middle | 1,655 | 2.8 | 1.0 | 1.8 | 75.7 | 0.3 | 26.3 | 20.2 | 29.0 | 21.5 | 1.2 | 12.6 | 7.8 |
| High | 1,589 | 1.4 | 0.7 | 0.7 | 69.2 | 0.2 | 20.9 | 16.1 | 32.1 | 29.4 | 1.0 | 14.2 | 14.2 |
| Indepdendent students' family income | | | | | | | | | | | | | |
| Low | 3,863 | 11.3 | 6.9 | 4.4 | 77.8 | 1.8 | 47.9 | 13.4 | 14.8 | 10.9 | 1.6 | 6.0 | 3.3 |
| Lower middle | 1,313 | 5.0 | 2.9 | 2.1 | 83.5 | 1.5 | 60.7 | 11.8 | 9.5 | 11.5 | 1.0 | 7.8 | 2.7 |
| Upper middle | 732 | 2.5 | 1.6 | 0.9 | 84.7 | 0.9 | 65.6 | 10.0 | 8.2 | 12.8 | 0.9 | 9.6 | 2.4 |
| High | 201 | 3.0 | 2.2 | 0.8 | 80.0 | 0.6 | 58.9 | 11.1 | 9.3 | 17.1 | 0.6 | 11.2 | 5.3 |
| Mother's education level | | | | | | | | | | | | | |
| Not a high school graduate | 1,165 | 9.7 | 5.4 | 4.3 | 78.8 | 1.9 | 52.1 | 14.1 | 10.8 | 11.5 | 1.3 | 7.5 | 2.7 |
| High school graduate | 4,078 | 5.2 | 2.5 | 2.7 | 79.8 | 1.0 | 42.1 | 16.6 | 20.1 | 15.0 | 1.2 | 9.4 | 4.4 |
| Vocational or trade school | 501 | 3.9 | 1.8 | 2.1 | 77.9 | 0.8 | 37.1 | 17.5 | 22.5 | 18.2 | 1.4 | 11.6 | 5.2 |
| Some college | 1,505 | 3.0 | 1.4 | 1.6 | 79.9 | 0.6 | 37.5 | 17.8 | 24.1 | 17.1 | 1.1 | 10.1 | 5.9 |
| Bachelor's degree | 1,329 | 1.8 | 0.9 | 0.9 | 74.5 | 0.4 | 27.6 | 17.1 | 29.4 | 23.8 | 0.9 | 11.8 | 11.1 |
| Advanced degree | 604 | 1.4 | 0.7 | 0.7 | 68.3 | 0.3 | 22.8 | 14.7 | 30.5 | 30.3 | 0.9 | 14.9 | 14.6 |
| Father's education level | | | | | | | | | | | | | |
| Not a high school graduate | 1,308 | 7.8 | 4.3 | 3.5 | 80.7 | 2.1 | 53.6 | 13.8 | 11.1 | 11.6 | 1.3 | 7.5 | 2.8 |
| High school graduate | 2,958 | 5.6 | 2.6 | 3.0 | 79.1 | 0.9 | 41.9 | 17.6 | 18.7 | 15.3 | 1.3 | 10.0 | 4.0 |
| Vocational or trade school | 322 | 4.6 | 2.2 | 2.4 | 79.7 | 0.8 | 37.1 | 19.0 | 22.8 | 15.7 | 1.6 | 9.7 | 4.3 |
| Some college | 1,282 | 3.1 | 1.5 | 1.5 | 82.3 | 0.6 | 39.9 | 17.3 | 24.5 | 14.6 | 1.1 | 9.1 | 4.4 |
| Bachelor's degree | 1,628 | 2.1 | 1.1 | 1.0 | 77.6 | 0.4 | 31.1 | 17.2 | 28.9 | 20.4 | 0.9 | 11.0 | 8.5 |
| Advanced degree | 1,275 | 1.5 | 0.8 | 0.7 | 69.6 | 0.3 | 23.8 | 14.8 | 30.8 | 28.8 | 0.9 | 13.7 | 14.3 |

NOTE: The categories of family income were based on dependent student's family income. Low income is defined as the lowest 25 percent of family incomes; lower middle as the next 25 percent; upper middle as the next 25 percent; and high as the top 25 percent of family incomes. Some college includes associate's degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Table 45-2 Percentage of undergraduate postsecondary students enrolled in different types of institutions, by parents' education and family income: Fall 1986

| Student characteristics | Number of students (thousands) | Private, for profit | | | Public | | | | | Private, not-for-profit | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All | Less than 2-year | 2-year or more | All | Less than 2-year | 2-year | 4-year | | All | 2-year or less | 4-year | |
| | | | | | | | | Non-PhD | PhD | | | Non-PhD | PhD |
| **Total** | **11,185** | **5.4** | **3.4** | **2.0** | **76.5** | **1.2** | **37.4** | **15.1** | **22.9** | **18.1** | **1.3** | **10.0** | **6.8** |
| Dependent students' family income | | | | | | | | | | | | | |
| Low | 1,763 | 7.4 | 4.5 | 2.9 | 75.4 | 1.7 | 36.2 | 17.1 | 20.4 | 17.1 | 1.9 | 9.4 | 5.8 |
| Lower middle | 1,742 | 4.5 | 2.3 | 2.2 | 76.5 | 0.7 | 34.1 | 16.4 | 25.3 | 19.0 | 1.7 | 10.7 | 6.7 |
| Upper middle | 1,866 | 2.4 | 1.0 | 1.4 | 77.4 | 0.5 | 28.9 | 17.3 | 30.8 | 20.2 | 1.3 | 11.1 | 7.8 |
| High | 1,676 | 1.5 | 0.6 | 0.9 | 68.1 | 0.2 | 18.6 | 15.6 | 33.7 | 30.4 | 0.9 | 15.0 | 14.6 |
| Indepdendent students' family income | | | | | | | | | | | | | |
| Low | 2,382 | 10.8 | 8.0 | 2.8 | 77.7 | 2.4 | 45.8 | 12.6 | 17.0 | 11.5 | 1.4 | 7.1 | 3.1 |
| Lower middle | 900 | 4.9 | 3.1 | 1.8 | 82.9 | 1.1 | 57.9 | 11.1 | 12.9 | 12.2 | 1.1 | 7.1 | 3.9 |
| Upper middle | 578 | 2.5 | 1.4 | 1.2 | 84.1 | 1.3 | 57.0 | 12.8 | 13.0 | 13.4 | 0.9 | 8.6 | 4.0 |
| High | 267 | 2.0 | 0.8 | 1.2 | 81.9 | 0.6 | 56.8 | 13.3 | 11.2 | 16.0 | 0.6 | 10.1 | 5.3 |
| Mother's education level | | | | | | | | | | | | | |
| Not a high school graduate | 1,749 | 8.9 | 6.2 | 2.8 | 77.9 | 2.1 | 47.4 | 14.1 | 14.3 | 13.2 | 1.9 | 7.7 | 3.6 |
| High school graduate | 3,509 | 5.6 | 3.2 | 2.4 | 77.9 | 1.1 | 39.1 | 15.9 | 21.8 | 16.5 | 1.4 | 9.9 | 5.2 |
| Vocational or trade school | 882 | 4.4 | 2.6 | 1.8 | 78.9 | 1.0 | 39.3 | 16.8 | 21.9 | 16.7 | 1.2 | 9.8 | 5.7 |
| Some college | 1,655 | 3.5 | 2.2 | 1.3 | 79.0 | 0.7 | 37.2 | 15.4 | 25.7 | 17.5 | 1.0 | 9.9 | 6.6 |
| Bachelor's degree | 1,591 | 2.4 | 1.4 | 1.0 | 74.1 | 0.4 | 25.8 | 15.7 | 32.1 | 23.6 | 0.9 | 12.3 | 10.3 |
| Advanced degree | 987 | 1.6 | 0.8 | 0.8 | 68.0 | 0.4 | 20.6 | 13.8 | 33.2 | 30.4 | 1.2 | 13.7 | 15.6 |
| Father's education level | | | | | | | | | | | | | |
| Not a high school graduate | 1,747 | 8.9 | 6.3 | 2.6 | 78.4 | 2.0 | 49.2 | 14.1 | 13.1 | 12.8 | 1.9 | 7.5 | 3.4 |
| High school graduate | 3,455 | 6.0 | 3.4 | 2.6 | 77.4 | 1.2 | 38.9 | 15.7 | 21.7 | 16.6 | 1.5 | 10.3 | 4.9 |
| Vocational or trade school | 892 | 4.9 | 2.7 | 2.2 | 79.6 | 1.0 | 41.3 | 16.1 | 21.2 | 15.4 | 1.2 | 8.9 | 5.3 |
| Some college | 1,597 | 3.1 | 1.8 | 1.2 | 79.5 | 0.8 | 36.7 | 16.2 | 25.8 | 17.5 | 1.1 | 9.9 | 6.4 |
| Bachelor's degree | 1,593 | 2.6 | 1.5 | 1.1 | 73.0 | 0.5 | 24.8 | 15.1 | 32.7 | 24.4 | 1.1 | 12.6 | 10.7 |
| Advanced degree | 1,077 | 1.3 | 0.8 | 0.5 | 69.4 | 0.3 | 21.2 | 14.2 | 33.7 | 29.3 | 0.9 | 12.6 | 15.8 |

NOTE: The categories of family income were based on dependent student's family income. Low income is defined as the lowest 25 percent of family incomes; lower middle as the next 25 percent; upper middle as the next 25 percent; and high as the top 25 percent of family incomes. Some college includes associate's degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1987.

## Table 45-3 Standard errors for estimated percentages in table 45-1

| Student characteristics | Number of students (thousands) | Private, for profit | | | Public | | | | | Private, not-for-profit | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All | Less than 2-year | 2-year or more | All | Less than 2-year | 2-year | 4-year Non-PhD | 4-year PhD | All | 2-year or less | 4-year Non-PhD | 4-year PhD |
| **Total** | **0.4** | **0.3** | **0.3** | **0.9** | **0.2** | **1.5** | **1.1** | **1.6** | **0.8** | **0.1** | **0.6** | **0.5** | |
| Dependent students' family income | | | | | | | | | | | | | |
| Low | 0.7 | 0.4 | 0.5 | 1.4 | 0.2 | 1.9 | 1.5 | 2.0 | 1.2 | 0.2 | 1.0 | 0.5 | |
| Lower middle | 0.4 | 0.2 | 0.4 | 1.2 | 0.2 | 1.9 | 1.7 | 2.5 | 1.1 | 0.2 | 0.8 | 0.5 | |
| Upper middle | 0.5 | 0.2 | 0.5 | 1.4 | 0.1 | 1.7 | 2.0 | 2.2 | 1.3 | 0.2 | 1.0 | 0.7 | |
| High | 0.2 | 0.1 | 0.2 | 2.0 | 0.1 | 1.8 | 1.7 | 2.4 | 2.0 | 0.2 | 1.3 | 1.6 | |
| Indepdendent students' family income | | | | | | | | | | | | | |
| Low | 0.8 | 0.6 | 0.5 | 1.1 | 0.4 | 1.7 | 1.0 | 1.4 | 0.7 | 0.2 | 0.5 | 0.4 | |
| Lower middle | 0.5 | 0.3 | 0.3 | 1.1 | 0.4 | 2.0 | 1.1 | 1.2 | 1.0 | 0.2 | 0.8 | 0.4 | |
| Upper middle | 0.4 | 0.3 | 0.2 | 1.5 | 0.3 | 2.4 | 1.2 | 1.2 | 1.4 | 0.2 | 1.3 | 0.3 | |
| High | 1.0 | 0.9 | 0.3 | 2.5 | 0.5 | 4.0 | 2.1 | 1.7 | 2.2 | 0.3 | 1.9 | 0.9 | |
| Mother's education level | | | | | | | | | | | | | |
| Not a high school graduate | 0.8 | 0.5 | 0.6 | 1.2 | 0.3 | 2.0 | 1.2 | 1.2 | 0.8 | 0.2 | 0.6 | 0.3 | |
| High school graduate | 0.5 | 0.2 | 0.5 | 1.0 | 0.2 | 1.7 | 1.4 | 1.7 | 0.8 | 0.1 | 0.6 | 0.4 | |
| Vocational or trade school | 0.4 | 0.3 | 0.3 | 1.4 | 0.3 | 2.4 | 1.8 | 2.2 | 1.2 | 0.2 | 1.0 | 0.5 | |
| Some college | 0.3 | 0.2 | 0.2 | 1.1 | 0.1 | 2.0 | 1.4 | 1.9 | 1.0 | 0.2 | 0.7 | 0.6 | |
| Bachelor's degree | 0.3 | 0.2 | 0.2 | 1.6 | 0.1 | 1.8 | 1.6 | 2.2 | 1.5 | 0.2 | 1.0 | 1.2 | |
| Advanced degree | 0.2 | 0.2 | 0.1 | 2.1 | 0.1 | 2.4 | 1.4 | 2.3 | 2.1 | 0.2 | 1.4 | 1.7 | |
| Father's education level | | | | | | | | | | | | | |
| Not a high school graduate | 0.7 | 0.4 | 0.5 | 1.0 | 0.4 | 1.9 | 1.2 | 1.2 | 0.8 | 0.2 | 0.6 | 0.3 | |
| High school graduate | 0.6 | 0.2 | 0.5 | 1.0 | 0.2 | 1.7 | 1.5 | 1.7 | 0.8 | 0.1 | 0.7 | 0.3 | |
| Vocational or trade school | 0.8 | 0.4 | 0.7 | 1.6 | 0.3 | 3.2 | 2.2 | 2.4 | 1.3 | 0.3 | 1.0 | 0.6 | |
| Some college | 0.3 | 0.2 | 0.3 | 1.0 | 0.2 | 2.0 | 1.4 | 2.1 | 0.9 | 0.2 | 0.7 | 0.4 | |
| Bachelor's degree | 0.3 | 0.2 | 0.2 | 1.3 | 0.1 | 2.1 | 1.5 | 2.3 | 1.3 | 0.2 | 0.9 | 0.8 | |
| Advanced degree | 0.3 | 0.2 | 0.2 | 1.9 | 0.1 | 1.9 | 1.4 | 2.1 | 1.9 | 0.2 | 1.2 | 1.6 | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1990.

## Table 45-4 Standard errors for estimatd percentages in table 45-2

| Student characteristics | Number of students (thousands) | Private, for profit | | | Public | | | | | Private, not-for-profit | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 4-year | | | | 4-year | |
| | | All | Less than 2-year | 2-year or more | All | Less than 2-year | 2-year | Non-PhD | PhD | All | 2-year or less | Non-PhD | PhD |
| **Total** | **0.4** | **0.4** | **0.2** | **0.9** | **0.3** | **1.4** | **1.0** | **1.0** | **0.8** | **0.2** | **0.6** | **0.6** | |
| Dependent students' family income | | | | | | | | | | | | | |
| Low | 0.6 | 0.5 | 0.3 | 1.2 | 0.5 | 1.7 | 1.3 | 1.3 | 1.0 | 0.4 | 0.7 | 0.6 | |
| Lower middle | 0.4 | 0.4 | 0.3 | 1.1 | 0.2 | 1.6 | 1.3 | 1.2 | 1.0 | 0.4 | 0.7 | 0.7 | |
| Upper middle | 0.3 | 0.2 | 0.2 | 1.2 | 0.1 | 1.6 | 1.4 | 1.4 | 1.2 | 0.2 | 0.9 | 0.8 | |
| High | 0.2 | 0.1 | 0.2 | 1.7 | 0.1 | 1.4 | 1.6 | 1.8 | 1.7 | 0.2 | 1.2 | 1.5 | |
| Indepdendent students' family income | | | | | | | | | | | | | |
| Low | 1.0 | 0.9 | 0.2 | 1.2 | 0.6 | 1.9 | 1.0 | 1.3 | 0.8 | 0.2 | 0.6 | 0.5 | |
| Lower middle | 0.6 | 0.5 | 0.3 | 1.2 | 0.3 | 2.0 | 0.9 | 1.2 | 1.0 | 0.2 | 0.8 | 0.5 | |
| Upper middle | 0.5 | 0.3 | 0.5 | 1.6 | 0.4 | 2.4 | 1.3 | 1.4 | 1.5 | 0.3 | 1.3 | 0.8 | |
| High | 0.5 | 0.3 | 0.4 | 1.9 | 0.2 | 3.1 | 1.9 | 1.6 | 1.8 | 0.2 | 1.4 | 0.9 | |
| Mother's education level | | | | | | | | | | | | | |
| Not a high school graduate | 0.9 | 0.8 | 0.3 | 1.3 | 0.5 | 1.9 | 1.1 | 1.1 | 0.9 | 0.4 | 0.7 | 0.4 | |
| High school graduate | 0.4 | 0.3 | 0.3 | 1.0 | 0.3 | 1.5 | 1.2 | 1.1 | 0.8 | 0.2 | 0.6 | 0.5 | |
| Vocational or trade school | 0.5 | 0.4 | 0.3 | 1.2 | 0.3 | 2.2 | 1.5 | 1.5 | 1.1 | 0.2 | 0.8 | 0.6 | |
| Some college | 0.4 | 0.3 | 0.1 | 1.2 | 0.2 | 1.9 | 1.2 | 1.3 | 1.1 | 0.2 | 0.7 | 0.8 | |
| Bachelor's degree | 0.3 | 0.2 | 0.2 | 1.4 | 0.2 | 1.7 | 1.3 | 1.6 | 1.3 | 0.2 | 0.9 | 1.1 | |
| Advanced degree | 0.2 | 0.1 | 0.2 | 2.0 | 0.3 | 1.7 | 1.3 | 2.0 | 2.0 | 0.3 | 1.2 | 1.8 | |
| Father's education level | | | | | | | | | | | | | |
| Not a high school graduate | 1.0 | 1.0 | 0.3 | 1.3 | 0.4 | 1.8 | 1.1 | 1.0 | 1.0 | 0.5 | 0.7 | 0.4 | |
| High school graduate | 0.5 | 0.3 | 0.3 | 1.0 | 0.3 | 1.6 | 1.2 | 1.2 | 0.9 | 0.2 | 0.7 | 0.5 | |
| Vocational or trade school | 0.4 | 0.3 | 0.2 | 1.1 | 0.3 | 2.0 | 1.2 | 1.4 | 1.0 | 0.2 | 0.7 | 0.6 | |
| Some college | 0.3 | 0.3 | 0.1 | 1.1 | 0.3 | 1.9 | 1.3 | 1.4 | 1.0 | 0.2 | 0.7 | 0.7 | |
| Bachelor's degree | 0.4 | 0.3 | 0.2 | 1.4 | 0.2 | 1.6 | 1.4 | 1.7 | 1.4 | 0.2 | 0.9 | 1.1 | |
| Advanced degree | 0.2 | 0.1 | 0.1 | 2.0 | 0.1 | 1.7 | 1.4 | 1.9 | 2.0 | 0.2 | 1.1 | 1.9 | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1987.

**Table 46-1 Percentage of 13-year-olds who spent given amounts of time doing homework each day; by sex, control of school, and parents' highest level of education: 1982–90**

| 1982 | Had none | Did not do | Less than 1 hour | 1-2 hours | Greater than 2 hours |
|---|---|---|---|---|---|
| **Total** | **27.0** | **6.0** | **27.3** | **39.6** | **0.0** |
| Sex | | | | | |
| Male | 29.1 | 7.7 | 28.0 | 35.2 | 0.0 |
| Female | 24.9 | 4.4 | 26.7 | 44.0 | 0.0 |
| Control of school | | | | | |
| Public | 28.0 | 6.3 | 27.7 | 37.9 | 0.0 |
| Private | 19.0 | 3.6 | 24.1 | 53.3 | 0.0 |
| Parents' highest level of education | | | | | |
| Less than high school | 31.7 | 8.2 | 26.3 | 33.8 | 0.0 |
| Graduated high school | 31.1 | 5.6 | 28.0 | 35.4 | 0.0 |
| More than high school | 26.5 | 6.2 | 27.8 | 39.5 | 0.0 |
| Graduated college | 20.9 | 5.2 | 26.9 | 47.0 | 0.0 |

| 1986 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **4.1** | **3.0** | **18.7** | **42.0** | **22.3** | **9.8** |
| Sex | | | | | | |
| Male | 4.6 | 4.0 | 20.5 | 43.4 | 20.0 | 7.4 |
| Female | 3.7 | 2.0 | 17.0 | 40.5 | 24.6 | 12.2 |
| Control of school | | | | | | |
| Public | 4.3 | 3.0 | 18.9 | 42.0 | 22.1 | 9.7 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 6.6 | 3.7 | 21.0 | 40.2 | 18.5 | 10.0 |
| Graduated high school | 4.9 | 2.6 | 19.0 | 45.0 | 20.5 | 7.9 |
| More than high school | 4.0 | 3.4 | 17.2 | 40.7 | 26.6 | 8.1 |
| Graduated college | 2.8 | 2.8 | 17.6 | 42.2 | 23.2 | 11.3 |

| 1990 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **4.8** | **4.4** | **20.1** | **42.0** | **19.0** | **9.8** |
| Sex | | | | | | |
| Male | 6.1 | 6.1 | 23.4 | 41.0 | 16.0 | 7.5 |
| Female | 3.5 | 2.7 | 16.9 | 42.9 | 22.0 | 12.0 |
| Control of school | | | | | | |
| Public | 5.2 | 4.7 | 20.9 | 42.3 | 17.8 | 9.1 |
| Private | 1.1 | 1.4 | 13.4 | 39.0 | 29.6 | 15.6 |
| Parents' highest level of education | | | | | | |
| Less than high school | 8.7 | 7.0 | 23.9 | 37.2 | 13.0 | 10.2 |
| Graduated high school | 5.2 | 5.6 | 23.0 | 41.0 | 17.1 | 8.0 |
| More than high school | 3.3 | 3.8 | 20.4 | 45.2 | 19.2 | 8.1 |
| Graduated college | 3.6 | 2.8 | 17.4 | 43.8 | 21.5 | 11.0 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–1990.

## Table 46-2 Percentage of 17-year-olds who spent given amounts of time doing homework each day, by sex, control of school, and parents' highest level of education: 1978–90

| 1978 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours |
|---|---|---|---|---|---|
| **Total** | **32.4** | **12.7** | **22.5** | **22.7** | **9.8** |
| Sex | | | | | |
| Male | 35.4 | 16.0 | 21.8 | 18.8 | 8.0 |
| Female | 29.5 | 9.6 | 23.1 | 26.2 | 11.5 |
| Control of school | | | | | |
| Public | 33.2 | 12.7 | 22.6 | 22.3 | 9.3 |
| Private | 19.3 | 12.0 | 20.9 | 29.5 | 18.4 |
| Parents' highest level of education | | | | | |
| Less than high school | 41.3 | 13.4 | 19.3 | 18.4 | 7.6 |
| Graduated high school | 37.2 | 12.4 | 22.1 | 21.2 | 7.1 |
| More than high school | 31.9 | 12.7 | 23.2 | 23.0 | 9.2 |
| Graduated college | 23.2 | 12.5 | 24.0 | 26.2 | 14.1 |

| 1982 | Had none | Did not do | Less than 1 hour | 1–2 hours | Greater than 2 hours |
|---|---|---|---|---|---|
| **Total** | **30.0** | **11.5** | **21.1** | **37.4** | **0.0** |
| Sex | | | | | |
| Male | 32.4 | 14.2 | 21.9 | 31.4 | 0.0 |
| Female | 27.8 | 8.9 | 20.2 | 43.1 | 0.0 |
| Control of school | | | | | |
| Public | 31.4 | 11.5 | 20.9 | 36.2 | 0.0 |
| Private | 15.1 | 11.3 | 22.6 | 51.1 | 0.0 |
| Parents' highest level of education | | | | | |
| Less than high school | 42.4 | 11.1 | 17.5 | 29.0 | 0.0 |
| Graduated high school | 33.9 | 10.9 | 21.4 | 33.7 | 0.0 |
| More than high school | 27.6 | 12.2 | 21.4 | 38.7 | 0.0 |
| Graduated college | 20.6 | 11.7 | 22.5 | 45.2 | 0.0 |

| 1986 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **6.4** | **7.9** | **19.0** | **34.3** | **20.3** | **12.2** |
| Sex | | | | | | |
| Male | 7.2 | 11.1 | 23.3 | 34.5 | 14.6 | 9.3 |
| Female | 5.6 | 4.7 | 14.8 | 34.1 | 25.8 | 14.9 |
| Control of school | | | | | | |
| Public | 6.6 | 8.1 | 19.2 | 34.3 | 20.4 | 11.3 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 11.9 | 7.5 | 18.0 | 31.8 | 16.3 | 14.5 |
| Graduated high school | 8.7 | 8.5 | 18.2 | 36.6 | 19.3 | 8.7 |
| More than high school | 5.7 | 8.4 | 22.1 | 35.3 | 17.7 | 10.7 |
| Graduated college | 3.0 | 6.5 | 18.5 | 32.4 | 24.0 | 15.5 |

| 1990 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **6.4** | **8.4** | **19.2** | **33.2** | **19.7** | **13.1** |
| Sex | | | | | | |
| Male | 7.6 | 12.4 | 22.6 | 34.1 | 15.3 | 8.0 |
| Female | 5.4 | 4.7 | 15.9 | 32.4 | 23.8 | 17.9 |
| Control of school | | | | | | |
| Public | 6.8 | 8.6 | 19.6 | 33.4 | 19.2 | 12.3 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 12.6 | 12.5 | 19.4 | 31.1 | 14.8 | 9.6 |
| Graduated high school | 10.3 | 7.1 | 21.1 | 34.5 | 17.4 | 9.5 |
| More than high school | 5.9 | 8.5 | 20.6 | 33.2 | 20.2 | 11.6 |
| Graduated college | 2.5 | 7.8 | 17.4 | 33.0 | 22.3 | 17.0 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–90.

## Table 46-3 Percentage of 9-year-olds who spent given amounts of time watching television each day, by sex, control of school, and parents' highest level of education: 1982–1990

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **44.4** | **29.2** | **26.3** |
| Sex | | | |
| Male | 43.1 | 27.4 | 29.5 |
| Female | 45.7 | 31.0 | 23.2 |
| Control of school | | | |
| Public | 43.4 | 29.4 | 27.2 |
| Private | 51.2 | 27.9 | 20.8 |
| Parents' highest level of education* | | | |
| Less than high school | 42.3 | 26.4 | 31.3 |
| Graduated high school | 41.4 | 31.7 | 26.9 |
| More than high school | 40.3 | 33.8 | 25.9 |
| Graduated college | 46.4 | 29.0 | 24.5 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **29.3** | **40.1** | **30.6** |
| Sex | | | |
| Male | 27.1 | 38.9 | 34.1 |
| Female | 31.5 | 41.3 | 27.2 |
| Control of school | | | |
| Public | 28.3 | 39.9 | 31.9 |
| Private | 34.6 | 41.1 | 24.3 |
| Parents' highest level of education* | | | |
| Less than high school | 23.6 | 31.7 | 44.7 |
| Graduated high school | 26.2 | 41.7 | 32.1 |
| More than high school | 25.9 | 42.4 | 31.8 |
| Graduated college | 32.3 | 42.8 | 24.9 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **37.3** | **39.3** | **23.4** |
| Sex | | | |
| Male | 33.5 | 39.6 | 26.9 |
| Female | 41.1 | 39.0 | 19.9 |
| Control of school | | | |
| Public | 36.8 | 39.2 | 24.0 |
| Private | 41.4 | 40.2 | 18.4 |
| Parents' highest level of education* | | | |
| Less than high school | 35.0 | 33.7 | 31.3 |
| Graduated high school | 33.7 | 41.3 | 25.0 |
| More than high school | 33.3 | 44.9 | 21.8 |
| Graduated college | 41.0 | 38.2 | 20.8 |

*Caution should be taken in interpreting these results since large percentages of respondents (27 percent, 35 percent and 32 percent for 1982, 1986 and 1990, respectively) did not know their parents' highest level of education.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–90.

## Table 46-4 Percentage of 13-year-olds who spent given amounts of time watching television each day, by sex, control of school, and parents' highest level of education: 1982–1990

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **44.6** | **39.2** | **16.2** |
| Sex | | | |
| Male | 42.0 | 40.3 | 17.7 |
| Female | 47.2 | 38.2 | 14.6 |
| Control of school | | | |
| Public | 43.7 | 39.7 | 16.6 |
| Private | 52.0 | 35.4 | 12.6 |
| Parents' highest level of education | | | |
| Less than high school | 37.3 | 39.9 | 22.8 |
| Graduated high school | 39.2 | 42.8 | 17.9 |
| More than high school | 47.1 | 39.7 | 13.2 |
| Graduated college | 53.2 | 35.2 | 11.6 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **25.3** | **54.5** | **20.2** |
| Sex | | | |
| Male | 24.7 | 54.1 | 21.3 |
| Female | 26.0 | 54.9 | 19.1 |
| Control of school | | | |
| Public | 25.0 | 54.7 | 20.4 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 20.2 | 47.9 | 31.8 |
| Graduated high school | 19.5 | 58.3 | 22.2 |
| More than high school | 20.2 | 61.9 | 17.9 |
| Graduated college | 33.4 | 51.9 | 14.7 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **31.1** | **52.5** | **16.5** |
| Sex | | | |
| Male | 29.5 | 52.8 | 17.7 |
| Female | 32.7 | 52.1 | 15.2 |
| Control of school | | | |
| Public | 30.0 | 52.9 | 17.1 |
| Private | 40.5 | 48.6 | 10.8 |
| Parents' highest level of education | | | |
| Less than high school | 24.7 | 51.0 | 24.3 |
| Graduated high school | 25.6 | 55.0 | 19.4 |
| More than high school | 31.3 | 56.3 | 12.4 |
| Graduated college | 37.2 | 49.9 | 12.9 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–90.

**Table 46-5** **Percentage of 17-year-olds who spent given amounts of time watching television each day, by sex, control of school, and parents' highest level of education: 1978–1990**

| 1978 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **68.8** | **26.4** | **4.8** |
| Sex | | | |
| Male | 67.1 | 28.2 | 4.7 |
| Female | 70.4 | 24.7 | 4.9 |
| Control of school | | | |
| Public | 68.2 | 26.9 | 4.9 |
| Private | 77.9 | 19.0 | 3.0 |
| Parents' highest level of education | | | |
| Less than high school | 60.9 | 30.7 | 8.4 |
| Graduated high school | 65.2 | 29.5 | 5.3 |
| More than high school | 69.5 | 26.6 | 3.9 |
| Graduated college | 76.2 | 21.0 | 2.8 |

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **64.0** | **29.6** | **6.4** |
| Sex | | | |
| Male | 61.0 | 32.3 | 6.7 |
| Female | 66.9 | 27.1 | 6.0 |
| Control of school | | | |
| Public | 63.2 | 30.1 | 6.6 |
| Private | 72.5 | 24.2 | 3.3 |
| Parents' highest level of education | | | |
| Less than high school | 55.1 | 35.3 | 9.5 |
| Graduated high school | 59.0 | 33.2 | 7.8 |
| More than high school | 67.8 | 28.3 | 3.9 |
| Graduated college | 71.9 | 23.9 | 4.2 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **44.6** | **46.6** | **8.8** |
| Sex | | | |
| Male | 43.3 | 47.2 | 9.5 |
| Female | 45.9 | 46.1 | 8.0 |
| Control of school | | | |
| Public | 43.3 | 47.6 | 9.1 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 29.2 | 53.4 | 17.4 |
| Graduated high school | 36.0 | 53.8 | 10.2 |
| More than high school | 45.0 | 45.9 | 9.1 |
| Graduated college | 55.1 | 40.5 | 4.4 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **50.6** | **40.9** | **8.5** |
| Sex | | | |
| Male | 46.9 | 44.5 | 8.6 |
| Female | 54.1 | 37.4 | 8.4 |
| Control of school | | | |
| Public | 49.4 | 41.8 | 8.8 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 38.5 | 50.1 | 11.4 |
| Graduated high school | 44.5 | 44.3 | 11.2 |
| More than high school | 48.0 | 44.0 | 8.0 |
| Graduated college | 59.9 | 35.0 | 5.1 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–90.

## Table 46-6 Percentage of students who spent given amounts of time doing homework each day, by age and country: 1991

| Country | No homework | 1 hour or less | 2 or more hours |
|---|---|---|---|
| | | **9-year-olds** | |
| Canada | 28.8 | 58.1 | 13.0 |
| England | 53.8 | 37.1 | 9.0 |
| Hungary | 2.5 | 72.3 | 24.9 |
| Ireland | 1.9 | 80.2 | 17.5 |
| Israel | 4.5 | 59.9 | 34.7 |
| Italy | 5.7 | 75.8 | 16.5 |
| Korea | 2.0 | 76.5 | 21.5 |
| Portugal | 2.4 | 78.0 | 19.6 |
| Scotland | 17.8 | 78.1 | 3.9 |
| Slovenia | 4.1 | 81.1 | 14.7 |
| Soviet Union | 1.6 | 67.5 | 30.9 |
| Spain | 15.4 | 55.5 | 28.6 |
| Taiwan | 2.0 | 67.2 | 30.7 |
| United States | 20.2 | 59.3 | 20.4 |
| | | **13-year-olds** | |
| Canada | 7.5 | 65.1 | 27.0 |
| China | 2.9 | 51.7 | 43.7 |
| England | 1.6 | 64.3 | 33.4 |
| France | 0.5 | 43.8 | 55.4 |
| Hungary | 0.3 | 41.5 | 58.1 |
| Ireland | 1.4 | 35.1 | 63.3 |
| Israel | 0.5 | 48.8 | 50.3 |
| Italy | 0.1 | 19.1 | 79.1 |
| Jordan | 3.5 | 40.3 | 56.1 |
| Korea | 3.0 | 56.1 | 40.9 |
| Mozambique | 2.3 | 55.5 | 41.9 |
| Portugal | 5.2 | 64.8 | 29.7 |
| Scotland | 15.9 | 70.0 | 13.6 |
| Slovenia | 0.7 | 70.2 | 28.2 |
| Soviet Union | 0.5 | 47.1 | 52.4 |
| Spain | 1.2 | 33.3 | 64.4 |
| Switzerland | 0.6 | 78.7 | 20.4 |
| Taiwan | 4.2 | 54.9 | 40.8 |
| United States | 9.7 | 60.9 | 29.4 |

SOURCE: International Assessment of Educational Progress, Educational Testing Service, unpublished tabulations, 1992.

## Table 46-7 Percentage of students who spent given amounts of time watching television each day, by age and country: 1991

| Country | 1 hour or less | 2 – 4 hours | 5 or more hours |
|---|---|---|---|
| **9-year-olds** | | | |
| Canada | 28.1 | 50.2 | 21.6 |
| England | 26.3 | 51.2 | 22.5 |
| Hungary | 26.8 | 57.6 | 15.6 |
| Ireland | 23.6 | 53.5 | 22.9 |
| Israel | 23.2 | 53.0 | 23.8 |
| Italy | 46.1 | 44.6 | 9.3 |
| Korea | 25.6 | 65.2 | 9.2 |
| Portugal | 34.2 | 45.7 | 20.0 |
| Scotland | 22.9 | 54.0 | 23.1 |
| Slovenia | 40.9 | 51.3 | 7.9 |
| Soviet Union | 26.1 | 56.0 | 17.9 |
| Spain | 32.9 | 49.9 | 17.2 |
| Taiwan | 43.3 | 48.2 | 8.5 |
| United States | 24.9 | 48.6 | 26.4 |
| **13-year-olds** | | | |
| Canada | 17.9 | 67.7 | 14.4 |
| China | 64.9 | 28.6 | 6.5 |
| England | 17.4 | 68.4 | 14.3 |
| France | 50.7 | 44.2 | 5.1 |
| Hungary | 11.4 | 75.4 | 13.2 |
| Ireland | 28.7 | 62.8 | 8.6 |
| Israel | 11.5 | 68.7 | 19.9 |
| Italy | 26.0 | 68.7 | 5.3 |
| Jordan | 35.1 | 57.6 | 7.3 |
| Korea | 23.5 | 65.3 | 11.1 |
| Mozambique | 36.2 | 43.6 | 20.1 |
| Portugal | 22.4 | 66.4 | 11.1 |
| Scotland | 10.0 | 66.2 | 23.8 |
| Slovenia | 32.4 | 63.3 | 4.3 |
| Soviet Union | 11.7 | 70.9 | 17.4 |
| Spain | 26.2 | 63.4 | 10.4 |
| Switzerland | 41.3 | 51.6 | 7.1 |
| Taiwan | 32.2 | 57.3 | 10.5 |
| United States | 16.4 | 63.1 | 20.5 |

SOURCE: International Assessment of Educational Progress, Educational Testing Service, unpublished tabulations, 1992.

## Table 46-8 Standard errors for estimated percentages in text table for *Indicator 46*

| Year | Total | Sex | | Control of school | | Parents' highest level of education | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | Public | Private | Less than high school | Graduated high school | More than high school | Graduated college |
| | | | | **Percentages doing at least one hour of homework each day** | | | | | |
| | | | | **13-year-olds** | | | | | |
| 1982 | 1.2 | 1.3 | 1.3 | 1.2 | 4.2 | 1.7 | 1.3 | 1.7 | 1.5 |
| 1986 | 1.6 | 1.6 | 1.8 | 2.8 | (*) | 3.5 | 1.9 | 2.7 | 1.9 |
| 1990 | 0.9 | 1.2 | 1.1 | 2.7 | 2.2 | 2.5 | 1.5 | 1.8 | 1.1 |
| | | | | **17-year-olds** | | | | | |
| 1978 | 1.3 | 1.4 | 1.4 | 3.5 | 3.8 | 1.4 | 1.4 | 1.2 | 1.6 |
| 1982 | 1.4 | 1.3 | 1.6 | 1.2 | 3.2 | 2.0 | 1.2 | 2.1 | 1.5 |
| 1986 | 1.4 | 3.1 | 1.5 | 4.3 | (*) | 2.8 | 1.9 | 2.5 | 2.9 |
| 1990 | 1.3 | 1.4 | 1.6 | 2.0 | (*) | 4.3 | 1.9 | 1.7 | 1.9 |
| | | | | **Percentages watching at least three hours of television each day** | | | | | |
| | | | | **9-year-olds** | | | | | |
| 1982 | 1.1 | 1.4 | 1.2 | 1.1 | 2.5 | 2.5 | 1.4 | 2.3 | 1.6 |
| 1986 | 1.1 | 1.2 | 1.3 | 1.3 | 2.6 | 2.8 | 1.7 | 3.1 | 1.6 |
| 1990 | 0.9 | 1.1 | 1.2 | 1.0 | 3.2 | 3.3 | 1.6 | 3.1 | 1.6 |
| | | | | **13-year-olds** | | | | | |
| 1982 | 1.1 | 1.2 | 1.0 | 1.1 | 2.8 | 1.6 | 1.2 | 1.8 | 1.1 |
| 1986 | 1.6 | 2.3 | 1.6 | 1.7 | (*) | 3.0 | 1.7 | 2.1 | 2.4 |
| 1990 | 0.9 | 1.2 | 1.2 | 1.0 | 2.5 | 2.3 | 1.4 | 1.8 | 1.3 |
| | | | | **17-year-olds** | | | | | |
| 1978 | 0.7 | 0.8 | 0.9 | 0.8 | 2.0 | 1.3 | 0.9 | 1.2 | 1.0 |
| 1982 | 0.8 | 0.9 | 1.0 | 0.8 | 2.5 | 1.5 | 1.4 | 1.0 | 0.9 |
| 1986 | 1.3 | 1.9 | 1.6 | 1.3 | (*) | 3.1 | 1.8 | 1.9 | 2.1 |
| 1990 | 1.2 | 1.4 | 1.7 | 1.1 | (*) | 3.2 | 1.9 | 1.8 | 1.6 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–1990.

## Table 46-9 Standard errors for estimated percentages in table 46-1

| 1982 | Had none | Did not do | Less than 1 hour | 1–2 hours | Greater than 2 hours |
|---|---|---|---|---|---|
| **Total** | **1.1** | **0.3** | **0.5** | **1.0** | **0.0** |
| Sex | | | | | |
| Male | 1.2 | 0.4 | 0.6 | 1.1 | 0.0 |
| Female | 1.1 | 0.4 | 0.7 | 1.2 | 0.0 |
| Control of school | | | | | |
| Public | 1.1 | 0.3 | 0.5 | 0.9 | 0.0 |
| Private | 3.3 | 0.5 | 1.5 | 3.5 | 0.0 |
| Parents' highest level of education | | | | | |
| Less than high school | 1.7 | 0.7 | 1.5 | 1.7 | 0.0 |
| Graduated high school | 1.3 | 0.4 | 0.8 | 1.2 | 0.0 |
| More than high school | 1.5 | 0.6 | 1.3 | 1.5 | 0.0 |
| Graduated college | 1.2 | 0.4 | 0.8 | 1.4 | 0.0 |

| 1986 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **0.7** | **0.4** | **0.9** | **1.0** | **1.1** | **0.7** |
| Sex | | | | | | |
| Male | 0.7 | 0.7 | 1.1 | 1.6 | 1.1 | 0.9 |
| Female | 0.8 | 0.3 | 1.0 | 1.1 | 1.1 | 0.9 |
| Control of school | | | | | | |
| Public | 0.7 | 0.5 | 1.0 | 1.1 | 1.2 | 0.8 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 1.8 | 1.2 | 1.5 | 2.8 | 2.9 | 2.0 |
| Graduated high school | 0.8 | 0.7 | 1.0 | 1.6 | 1.7 | 0.9 |
| More than high school | 1.2 | 0.8 | 2.4 | 2.8 | 1.9 | 1.3 |
| Graduated college | 0.6 | 0.5 | 1.7 | 1.6 | 1.3 | 1.1 |

| 1990 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **0.4** | **0.2** | **0.6** | **0.6** | **0.6** | **0.4** |
| Sex | | | | | | |
| Male | 0.6 | 0.4 | 0.8 | 0.9 | 0.7 | 0.5 |
| Female | 0.4 | 0.3 | 1.0 | 0.9 | 0.9 | 0.7 |
| Control of school | | | | | | |
| Public | 0.4 | 0.3 | 0.7 | 0.6 | 0.6 | 0.4 |
| Private | 0.6 | 0.7 | 1.9 | 1.9 | 1.9 | 1.9 |
| Parents' highest level of education | | | | | | |
| Less than high school | 1.1 | 1.3 | 2.0 | 2.1 | 1.5 | 1.5 |
| Graduated high school | 0.7 | 0.6 | 1.3 | 1.2 | 0.9 | 0.7 |
| More than high school | 0.6 | 0.6 | 1.6 | 2.0 | 1.6 | 0.8 |
| Graduated college | 0.4 | 0.4 | 0.7 | 0.9 | 0.9 | 0.8 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–1990.

## Table 46-10 Standard errors for estimated percentages in table 46-2

| 1978 | Had none | Did not do | 1/2 hour | 1 hours | 2 hours |
|---|---|---|---|---|---|
| **Total** | **1.3** | **0.3** | **0.4** | **0.7** | **0.5** |
| Sex | | | | | |
| Male | 1.5 | 0.4 | 0.6 | 0.8 | 0.6 |
| Female | 1.3 | 0.3 | 0.6 | 0.8 | 0.6 |
| Control of school | | | | | |
| Public | 1.3 | 0.3 | 0.4 | 0.7 | 0.5 |
| Private | 3.0 | 1.3 | 1.2 | 1.9 | 2.1 |
| Parents' highest level of education | | | | | |
| Less than high school | 1.6 | 0.8 | 0.8 | 1.0 | 0.6 |
| Graduated high school | 1.5 | 0.4 | 0.7 | 0.8 | 0.4 |
| More than high school | 1.2 | 0.7 | 0.7 | 1.0 | 0.7 |
| Graduated college | 1.4 | 0.5 | 0.6 | 1.0 | 0.8 |

| 1982 | Had none | Did not do | Less than 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|
| **Total** | **1.3** | **0.3** | **0.4** | **1.3** | **0.0** |
| Sex | | | | | |
| Male | 1.3 | 0.4 | 0.7 | 1.3 | 0.0 |
| Female | 1.4 | 0.3 | 0.5 | 1.5 | 0.0 |
| Control of school | | | | | |
| Public | 1.2 | 0.3 | 0.4 | 1.2 | 0.0 |
| Private | 2.3 | 1.0 | 1.3 | 3.2 | 0.0 |
| Parents' highest level of education | | | | | |
| Less than high school | 1.9 | 0.6 | 0.8 | 2.0 | 0.0 |
| Graduated high school | 1.2 | 0.5 | 0.6 | 1.1 | 0.0 |
| More than high school | 1.9 | 0.7 | 1.0 | 1.5 | 0.0 |
| Graduated college | 1.2 | 0.5 | 0.5 | 1.5 | 0.0 |

| 1986 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **0.6** | **0.5** | **0.7** | **1.1** | **0.7** | **1.0** |
| Sex | | | | | | |
| Male | 0.8 | 1.0 | 1.1 | 1.5 | 0.9 | 1.8 |
| Female | 0.8 | 0.5 | 0.9 | 1.4 | 1.3 | 1.1 |
| Control of school | | | | | | |
| Public | 0.6 | 0.6 | 0.8 | 1.0 | 0.7 | 0.7 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 1.7 | 1.3 | 2.1 | 2.7 | 1.7 | 1.9 |
| Graduated high school | 1.1 | 0.9 | 1.3 | 1.7 | 1.5 | 0.8 |
| More than high school | 0.8 | 1.2 | 1.7 | 1.9 | 2.0 | 1.4 |
| Graduated college | 0.7 | 0.8 | 1.4 | 1.7 | 1.4 | 2.3 |

| 1990 | Had none | Did not do | 1/2 hour | 1 hour | 2 hours | Greater than 2 hours |
|---|---|---|---|---|---|---|
| **Total** | **0.6** | **0.4** | **0.9** | **1.0** | **0.7** | **0.9** |
| Sex | | | | | | |
| Male | 0.7 | 0.9 | 1.1 | 1.3 | 0.7 | 0.7 |
| Female | 0.8 | 0.5 | 1.0 | 1.3 | 1.0 | 1.3 |
| Control of school | | | | | | |
| Public | 0.7 | 0.4 | 0.9 | 0.9 | 0.7 | 0.8 |
| Private | (*) | (*) | (*) | (*) | (*) | (*) |
| Parents' highest level of education | | | | | | |
| Less than high school | 2.9 | 1.3 | 2.3 | 3.3 | 2.4 | 1.7 |
| Graduated high school | 1.1 | 1.0 | 1.4 | 1.5 | 1.2 | 1.1 |
| More than high school | 0.8 | 0.9 | 1.2 | 1.3 | 1.4 | 0.9 |
| Graduated college | 0.4 | 0.7 | 1.3 | 1.6 | 1.0 | 1.6 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–1990.

## Table 46-11 Standard errors for estimated percentages in table 46-3

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **1.1** | **0.6** | **1.0** |
| Sex | | | |
| Male | 1.4 | 0.6 | 1.3 |
| Female | 1.1 | 0.9 | 1.0 |
| Control of school | | | |
| Public | 1.1 | 0.6 | 0.9 |
| Private | 2.5 | 1.6 | 1.6 |
| Parents' highest level of education | | | |
| Less than high school | 2.4 | 2.2 | 1.6 |
| Graduated high school | 1.3 | 0.8 | 1.3 |
| More than high school | 2.3 | 1.8 | 1.7 |
| Graduated college | 1.6 | 0.6 | 1.4 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.9** | **0.8** | **1.1** |
| Sex | | | |
| Male | 1.0 | 1.2 | 1.3 |
| Female | 1.3 | 0.9 | 1.2 |
| Control of school | | | |
| Public | 1.0 | 0.9 | 1.3 |
| Private | 2.1 | 2.0 | 2.3 |
| Parents' highest level of education | | | |
| Less than high school | 2.3 | 3.0 | 3.3 |
| Graduated high school | 1.7 | 1.6 | 1.6 |
| More than high school | 3.1 | 3.1 | 3.1 |
| Graduated college | 1.1 | 1.4 | 1.5 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.9** | **0.7** | **0.8** |
| Sex | | | |
| Male | 1.1 | 0.9 | 1.0 |
| Female | 1.1 | 1.0 | 1.0 |
| Control of school | | | |
| Public | 0.9 | 0.7 | 0.9 |
| Private | 3.0 | 2.5 | 2.5 |
| Parents' highest level of education | | | |
| Less than high school | 3.3 | 2.8 | 2.6 |
| Graduated high school | 1.4 | 1.7 | 1.5 |
| More than high school | 2.9 | 3.3 | 2.4 |
| Graduated college | 1.3 | 1.1 | 1.3 |

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–1990.

## Table 46-12 Standard errors for estimated percentages in table 46-4

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.8** | **0.4** | **0.8** |
| Sex | | | |
| Male | 0.9 | 0.6 | 0.9 |
| Female | 0.9 | 0.6 | 0.7 |
| Control of school | | | |
| Public | 0.8 | 0.4 | 0.8 |
| Private | 2.8 | 1.8 | 1.4 |
| Parents' highest level of education | | | |
| Less than high school | 1.6 | 1.4 | 1.3 |
| Graduated high school | 1.0 | 0.7 | 0.9 |
| More than high school | 1.4 | 1.4 | 1.2 |
| Graduated college | 0.9 | 0.8 | 0.7 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **1.2** | **1.4** | **1.5** |
| Sex | | | |
| Male | 1.6 | 1.4 | 2.2 |
| Female | 1.6 | 1.8 | 1.2 |
| Control of school | | | |
| Public | 1.2 | 1.5 | 1.6 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 1.8 | 3.7 | 3.2 |
| Graduated high school | 1.7 | 1.6 | 1.8 |
| More than high school | 1.8 | 2.5 | 1.6 |
| Graduated college | 2.4 | 2.3 | 1.8 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.9** | **0.7** | **0.7** |
| Sex | | | |
| Male | 1.2 | 0.9 | 0.9 |
| Female | 1.1 | 1.0 | 0.9 |
| Control of school | | | |
| Public | 0.9 | 0.7 | 0.8 |
| Private | 2.5 | 2.5 | 1.3 |
| Parents' highest level of education | | | |
| Less than high school | 2.3 | 2.1 | 2.3 |
| Graduated high school | 1.4 | 1.2 | 1.2 |
| More than high school | 1.8 | 1.8 | 1.1 |
| Graduated college | 1.2 | 1.3 | 0.8 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1982–1990.

## Table 46-13 Standard errors for estimated percentages in table 46-5

| 1978 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.7** | **0.6** | **0.2** |
| Sex | | | |
| Male | 0.8 | 0.6 | 0.3 |
| Female | 0.9 | 0.8 | 0.4 |
| Control of school | | | |
| Public | 0.8 | 0.6 | 0.3 |
| Private | 2.0 | 1.6 | 0.6 |
| Parents' highest level of education | | | |
| Less than high school | 1.3 | 1.0 | 0.5 |
| Graduated high school | 0.9 | 0.8 | 0.4 |
| More than high school | 1.0 | 0.9 | 0.5 |
| Graduated college | 1.0 | 0.8 | 0.3 |

| 1982 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **0.8** | **0.5** | **0.4** |
| Sex | | | |
| Male | 0.9 | 0.7 | 0.4 |
| Female | 1.0 | 0.7 | 0.4 |
| Control of school | | | |
| Public | 0.8 | 0.6 | 0.4 |
| Private | 2.5 | 2.1 | 0.6 |
| Parents' highest level of education | | | |
| Less than high school | 1.0 | 1.0 | 0.9 |
| Graduated high school | 1.4 | 1.1 | 0.5 |
| More than high school | 1.0 | 1.0 | 0.4 |
| Graduated college | 0.8 | 0.6 | 0.4 |

| 1986 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **1.3** | **1.2** | **0.6** |
| Sex | | | |
| Male | 1.8 | 1.9 | 0.9 |
| Female | 1.6 | 1.4 | 0.7 |
| Control of school | | | |
| Public | 1.3 | 1.1 | 0.6 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 2.7 | 3.3 | 2.6 |
| Graduated high school | 1.8 | 1.8 | 1.1 |
| More than high school | 1.9 | 1.8 | 1.1 |
| Graduated college | 2.1 | 2.0 | 0.5 |

| 1990 | 0–2 hours | 3–5 hours | 6 hours or more |
|---|---|---|---|
| **Total** | **1.2** | **1.1** | **0.5** |
| Sex | | | |
| Male | 1.4 | 1.3 | 0.8 |
| Female | 1.7 | 1.6 | 0.8 |
| Control of school | | | |
| Public | 1.1 | 1.0 | 0.6 |
| Private | (*) | (*) | (*) |
| Parents' highest level of education | | | |
| Less than high school | 3.2 | 3.1 | 2.0 |
| Graduated high school | 1.8 | 1.9 | 1.1 |
| More than high school | 1.6 | 1.8 | 0.8 |
| Graduated college | 1.6 | 1.5 | 0.6 |

*Too few sample observations for a reliable estimate.

SOURCE: National Assessment of Educational Progress, unpublished Trend Almanacs, 1978–1990.

## Table 46-14 Standard errors for estimated percentages in table 46-6

| | No homework | 1 hour or less | 2 or more hours |
|---|---|---|---|
| | | **9-year-olds** | |
| Canada | 1.2 | 1.1 | 0.6 |
| England | 4.6 | 4.4 | 1.2 |
| Hungary | 0.5 | 1.4 | 1.4 |
| Ireland | 0.4 | 1.7 | 1.5 |
| Israel | 0.7 | 1.6 | 1.5 |
| Italy | 0.9 | 1.7 | 1.5 |
| Korea | 0.4 | 1.1 | 1.1 |
| Portugal | 0.6 | 1.8 | 1.7 |
| Scotland | 2.8 | 3.0 | 0.6 |
| Slovenia | 0.7 | 1.2 | 1.1 |
| Soviet Union | 0.3 | 1.4 | 1.3 |
| Spain | 1.6 | 1.9 | 1.8 |
| Taiwan | 0.5 | 1.3 | 1.2 |
| United States | 1.8 | 2.0 | 1.2 |
| | | **13-year-olds** | |
| Canada | 0.6 | 0.9 | 1.0 |
| China | 0.7 | 1.8 | 1.8 |
| England | 0.5 | 2.7 | 2.8 |
| France | 0.2 | 1.6 | 1.6 |
| Hungary | 0.1 | 1.3 | 1.3 |
| Ireland | 0.5 | 1.8 | 1.9 |
| Israel | 0.2 | 1.9 | 1.9 |
| Italy | 0.1 | 1.2 | 1.3 |
| Jordan | 0.5 | 1.9 | 2.0 |
| Korea | 0.5 | 1.6 | 1.7 |
| Mozambique | 0.5 | 1.8 | 1.8 |
| Portugal | 1.3 | 1.7 | 1.6 |
| Scotland | 1.4 | 1.2 | 1.1 |
| Slovenia | 0.2 | 1.6 | 1.7 |
| Soviet Union | 0.2 | 1.6 | 1.6 |
| Spain | 0.4 | 1.5 | 1.5 |
| Switzerland | 0.2 | 1.3 | 1.3 |
| Taiwan | 0.6 | 1.1 | 1.3 |
| United States | 1.2 | 1.7 | 1.8 |

SOURCE: International Assessment of Educational Progress, Educational Testing Service, unpublished tabulations, 1992.

## Table 46-15 Standard errors for estimated percentages in table 46-7

| | 1 hour or less | 2–4 hours | 5 or more hours |
|---|---|---|---|
| | | **9-year-olds** | |
| Canada | 0.8 | 1.0 | 0.8 |
| England | 2.9 | 2.5 | 2.0 |
| Hungary | 1.3 | 1.3 | 1.2 |
| Ireland | 1.5 | 1.8 | 1.5 |
| Israel | 1.1 | 1.4 | 1.1 |
| Italy | 1.2 | 1.1 | 0.8 |
| Korea | 1.1 | 1.2 | 0.7 |
| Portugal | 1.6 | 1.7 | 1.5 |
| Scotland | 1.9 | 2.0 | 1.5 |
| Slovenia | 1.6 | 1.7 | 0.6 |
| Soviet Union | 1.5 | 1.4 | 0.7 |
| Spain | 1.7 | 1.5 | 1.4 |
| Taiwan | 1.5 | 1.4 | 0.8 |
| United States | 1.2 | 1.4 | 1.6 |
| | | **13-year-olds** | |
| Canada | 0.9 | 1.0 | 0.7 |
| China | 1.6 | 1.5 | 0.5 |
| England | 4.6 | 3.9 | 2.2 |
| France | 1.5 | 1.3 | 0.7 |
| Hungary | 0.8 | 1.2 | 1.0 |
| Ireland | 1.5 | 1.4 | 0.9 |
| Israel | 1.1 | 1.3 | 1.2 |
| Italy | 1.6 | 1.4 | 0.7 |
| Jordan | 1.2 | 1.2 | 0.8 |
| Korea | 1.3 | 1.3 | 0.9 |
| Mozambique | 1.5 | 1.6 | 1.2 |
| Portugal | 1.5 | 1.6 | 1.0 |
| Scotland | 1.0 | 1.3 | 1.3 |
| Slovenia | 1.6 | 1.6 | 0.5 |
| Soviet Union | 1.1 | 1.9 | 1.0 |
| Spain | 1.2 | 1.3 | 0.8 |
| Switzerland | 1.3 | 1.3 | 0.8 |
| Taiwan | 1.2 | 1.4 | 0.7 |
| United States | 1.6 | 1.6 | 1.7 |

SOURCE: International Assessment of Educational Progress, Educational Testing Service, unpublished tabulations, 1992.

## Table 47-1 Secondary school teachers' and principals' perceptions of school decision making, for selected school and classroom decisions, by control of school, type of community, and school enrollment: 1990–91

| Decisions | All schools | Private schools | Public schools | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Type of community | | | School enrollment | | |
| | | | | Rural/ small town | Urban fringe/large town | Central city | Less than 300 | 300 to 499 | 500 or more |
| **Percentage of teachers reporting faculty having a great deal of influence over school policies:** | | | | | | | | | |
| Determining discipline policy | 9.6 | 13.4 | 9.3 | 8.8 | 9.0 | 10.6 | 11.1 | 9.1 | 9.1 |
| Determining faculty training programs | 11.5 | 12.3 | 11.4 | 10.4 | 12.5 | 11.7 | 11.6 | 10.1 | 11.6 |
| Grouping students by ability | 7.9 | 13.7 | 7.5 | 7.3 | 7.4 | 8.1 | 9.8 | 7.5 | 7.2 |
| Establishing curriculum | 13.9 | 21.4 | 13.4 | 15.5 | 12.5 | 10.8 | 17.1 | 15.0 | 12.4 |
| **Percentage of teachers reporting themselves having complete control over classroom decisions:** | | | | | | | | | |
| Selecting textbooks | 33.5 | 49.6 | 32.5 | 40.1 | 28.1 | 25.3 | 43.6 | 37.4 | 29.6 |
| Selecting content & topics | 35.6 | 49.9 | 34.7 | 40.4 | 30.6 | 30.3 | 43.4 | 38.0 | 32.5 |
| Selecting teaching techniques | 62.0 | 75.5 | 61.1 | 63.7 | 59.4 | 59.0 | 64.4 | 62.5 | 60.3 |
| Grading students | 62.0 | 69.7 | 61.5 | 62.5 | 60.8 | 60.8 | 62.8 | 61.4 | 61.3 |
| Disciplining students | 35.2 | 48.1 | 34.3 | 33.9 | 34.4 | 34.9 | 37.4 | 33.3 | 34.0 |
| Determining amount of homework | 67.8 | 74.1 | 67.4 | 69.3 | 66.2 | 65.6 | 70.5 | 67.7 | 66.8 |
| **Percentage of principals reporting group having a great deal of influence over:** | | | | | | | | | |
| Establishing curriculum | | | | | | | | | |
| State Board of Education | 34.4 | — | 34.4 | 34.8 | 36.0 | 31.6 | 32.7 | 37.6 | 34.3 |
| School board | 18.1 | 7.7 | 19.2 | 14.9 | 23.4 | 26.3 | 15.3 | 19.7 | 21.1 |
| Principal | 25.6 | 62.6 | 21.5 | 24.6 | 19.8 | 14.5 | 22.0 | 27.2 | 19.5 |
| Teachers | 25.7 | 38.8 | 24.2 | 26.3 | 24.6 | 18.1 | 24.7 | 26.7 | 23.2 |
| Librarians/media specialists | 2.5 | 3.7 | 2.5 | 2.5 | 2.3 | 1.9 | 2.7 | 2.1 | 2.2 |
| Parent association | 0.7 | 0.3 | 0.7 | 0.6 | 0.9 | 0.8 | 0.5 | 0.5 | 0.9 |
| Hiring new full-time teachers | | | | | | | | | |
| School board | 25.4 | 10.5 | 27.0 | 27.3 | 24.1 | 29.6 | 26.7 | 28.0 | 26.9 |
| Principal | 62.2 | 87.9 | 59.3 | 62.3 | 63.1 | 46.7 | 57.4 | 62.0 | 59.5 |
| Teachers | 6.2 | 5.5 | 6.3 | 5.5 | 9.7 | 4.6 | 7.4 | 5.7 | 5.9 |
| Parent association | 0.9 | 0.1 | 1.0 | 1.1 | 0.6 | 1.3 | 1.9 | 0.6 | 0.6 |
| Setting discipline policy | | | | | | | | | |
| State Department of Education | 6.8 | — | 6.8 | 5.8 | 7.7 | 8.7 | 6.0 | 7.5 | 7.1 |
| School board | 33.6 | 9.8 | 36.3 | 32.6 | 38.9 | 43.2 | 33.0 | 32.4 | 39.2 |
| Principal | 58.1 | 80.9 | 55.5 | 59.7 | 54.0 | 45.9 | 56.7 | 61.3 | 53.1 |
| Teachers | 24.6 | 33.8 | 23.6 | 24.6 | 22.2 | 22.5 | 27.0 | 23.7 | 21.8 |
| Parent association | 2.3 | 0.9 | 2.4 | 1.9 | 2.8 | 3.6 | 1.9 | 1.9 | 2.9 |

—Not applicable.

NOTE: Principals and teachers were defined as having reported "a great deal of influence" or "complete control" if they responded 6 on a 6-point scale.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91

## Table 47-2 Elementary school teachers' and principals' perceptions of school decision making, for selected school and classroom decisions, by control of school, type of community, and school enrollment: 1990–91

| Decisions | All schools | Private schools | Public schools | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Type of community | | | School enrollment | | |
| | | | Total | Rural/ small town | Urban fringe/large town | Central city | Less than 300 | 300 to 499 | 500 or more |
| **Percentage of teachers reporting faculty having a great deal of influence over school policies:** | | | | | | | | | |
| Determining discipline policy | 17.6 | 29.4 | 16.4 | 16.8 | 15.8 | 16.4 | 18.9 | 16.6 | 15.4 |
| Determining faculty training programs | 12.8 | 15.6 | 12.5 | 12.0 | 13.0 | 12.6 | 12.5 | 12.6 | 12.4 |
| Grouping students by ability | 15.0 | 29.8 | 13.4 | 13.1 | 14.1 | 13.0 | 14.5 | 13.8 | 12.8 |
| Establishing curriculum | 13.3 | 25.8 | 11.9 | 13.9 | 11.9 | 8.9 | 15.5 | 11.6 | 10.9 |
| **Percentage of teachers reporting themselves having complete control over classroom decisions:** | | | | | | | | | |
| Selecting textbooks | 23.8 | 28.7 | 23.2 | 27.1 | 20.9 | 20.0 | 29.2 | 23.1 | 21.3 |
| Selecting content & topics | 27.7 | 37.4 | 26.7 | 28.8 | 24.7 | 25.7 | 33.0 | 26.3 | 24.7 |
| Selecting teaching techniques | 59.7 | 67.1 | 58.9 | 60.8 | 58.7 | 56.4 | 63.0 | 58.7 | 57.7 |
| Grading students | 58.2 | 62.7 | 57.7 | 58.1 | 57.8 | 57.0 | 63.3 | 57.1 | 56.2 |
| Disciplining students | 41.0 | 50.5 | 39.9 | 39.8 | 42.1 | 37.7 | 45.8 | 40.3 | 37.7 |
| Determining amount of homework | 62.4 | 60.7 | 62.5 | 65.1 | 59.7 | 61.9 | 67.2 | 62.1 | 61.2 |
| **Percentage of principals reporting group having a great deal of influence over:** | | | | | | | | | |
| Establishing curriculum | | | | | | | | | |
| State Board of Education | 36.0 | — | 36.0 | 33.6 | 34.6 | 41.8 | 32.3 | 37.3 | 37.6 |
| School board | 20.7 | 15.4 | 22.0 | 16.1 | 24.8 | 29.9 | 17.1 | 23.6 | 24.4 |
| Principal | 29.4 | 64.6 | 20.5 | 22.0 | 26.0 | 18.3 | 22.8 | 19.4 | 20.1 |
| Teachers | 28.8 | 45.7 | 24.6 | 27.6 | 24.1 | 19.5 | 25.3 | 24.9 | 23.7 |
| Librarians/media specialists | 4.3 | 7.6 | 3.4 | 4.1 | 2.9 | 2.7 | 2.9 | 4.2 | 3.2 |
| Parent association | 2.2 | 3.2 | 2.0 | 1.5 | 1.7 | 3.2 | 2.4 | 1.5 | 2.2 |
| Hiring new full-time teachers | | | | | | | | | |
| School board | 28.4 | 25.8 | 29.1 | 30.8 | 24.8 | 30.6 | 34.4 | 28.0 | 25.9 |
| Principal | 60.6 | 78.1 | 56.2 | 59.5 | 61.9 | 43.6 | 52.5 | 55.3 | 59.8 |
| Teachers | 5.2 | 4.6 | 5.3 | 5.2 | 5.7 | 5.2 | 5.4 | 4.3 | 6.2 |
| Parent association | 0.8 | 1.3 | 0.7 | 0.6 | 1.6 | 0.2 | 1.1 | 0.9 | 0.3 |
| Setting discipline policy | | | | | | | | | |
| State Department of Education | 9.0 | — | 9.0 | 8.2 | 7.3 | 12.5 | 7.6 | 9.1 | 10.1 |
| School board | 35.3 | 26.3 | 37.6 | 33.6 | 38.2 | 44.2 | 33.5 | 36.8 | 41.4 |
| Principal | 58.7 | 79.7 | 53.4 | 54.8 | 56.8 | 46.9 | 55.3 | 50.4 | 54.6 |
| Teachers | 37.7 | 50.1 | 34.6 | 33.1 | 39.9 | 31.4 | 34.0 | 34.8 | 34.8 |
| Parent association | 4.7 | 5.1 | 4.5 | 3.5 | 4.6 | 6.5 | 3.7 | 3.8 | 5.8 |

— Not applicable.

NOTE: Principals and teachers were defined as having reported "a great deal of influence" or "complete control" if they reported with a 6 on a 6-point scale.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91

## Table 47-3 Standard errors for estimated percentages in table 47-1

| Decisions | All schools | Private schools | Public schools | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Type of community | | | School enrollment | | |
| | | | | Rural/ small town | Urban fringe/large town | Central city | Less than 300 | 300 to 499 | 500 or more |
| **Percentage of teachers reporting faculty having a great deal of influence over school policies:** | | | | | | | | | |
| Determining discipline policy | 0.3 | 1.1 | 0.3 | 0.4 | 0.6 | 0.9 | 0.9 | 0.7 | 0.4 |
| Determining faculty training programs | 0.4 | 1.3 | 0.4 | 0.4 | 0.9 | 0.7 | 0.6 | 0.7 | 0.5 |
| Grouping students by ability | 0.3 | 1.1 | 0.3 | 0.4 | 0.6 | 0.7 | 0.8 | 0.6 | 0.4 |
| Establishing curriculum | 0.3 | 1.4 | 0.3 | 0.5 | 0.7 | 0.8 | 0.9 | 1.0 | 0.4 |
| **Percentage of teachers reporting themselves having complete control over classroom decisions:** | | | | | | | | | |
| Selecting textbooks | 0.5 | 1.8 | 0.5 | 0.6 | 1.1 | 0.9 | 1.2 | 1.1 | 0.6 |
| Selecting content & topics | 0.5 | 1.8 | 0.5 | 0.6 | 1.3 | 1.1 | 1.1 | 1.3 | 0.6 |
| Selecting teaching techniques | 0.6 | 1.5 | 0.6 | 0.7 | 1.0 | 1.3 | 1.1 | 1.1 | 0.7 |
| Grading students | 0.4 | 1.4 | 0.5 | 0.6 | 1.0 | 1.0 | 1.1 | 1.5 | 0.6 |
| Disciplining students | 0.5 | 1.6 | 0.5 | 0.7 | 0.9 | 1.2 | 0.8 | 1.3 | 0.6 |
| Determining amount of homework | 0.5 | 1.7 | 0.5 | 0.6 | 0.9 | 1.2 | 0.9 | 1.3 | 0.6 |
| **Percentage of principals reporting group having a great deal of influence over:** | | | | | | | | | |
| Establishing curriculum | | | | | | | | | |
| State Board of Education | 1.1 | — | 1.1 | 1.3 | 2.8 | 2.5 | 2.4 | 1.9 | 1.3 |
| School board | 0.7 | 1.6 | 0.8 | 0.9 | 1.5 | 1.9 | 1.2 | 2.3 | 0.9 |
| Principal | 0.8 | 3.0 | 0.8 | 1.0 | 1.7 | 1.6 | 1.8 | 2.3 | 1.1 |
| Teachers | 0.9 | 2.5 | 0.9 | 1.1 | 1.8 | 1.8 | 2.1 | 2.6 | 1.2 |
| Librarians/media specialists | 0.2 | 0.8 | 0.3 | 0.4 | 0.6 | 0.5 | 0.6 | 0.6 | 0.4 |
| Parent association | 0.1 | — | 0.1 | 0.2 | 0.3 | 0.4 | 0.2 | 0.3 | 0.2 |
| Hiring new full-time teachers | | | | | | | | | |
| School board | 0.8 | 1.4 | 0.9 | 1.1 | 1.7 | 2.2 | 1.7 | 2.3 | 1.1 |
| Principal | 0.8 | 2.1 | 0.9 | 1.2 | 1.8 | 2.7 | 2.2 | 2.5 | 1.3 |
| Teachers | 0.6 | 1.4 | 0.6 | 0.6 | 2.0 | 0.9 | 1.8 | 1.3 | 0.6 |
| Parent association | 0.2 | — | 0.2 | 0.4 | 0.4 | 0.7 | 0.9 | 0.3 | 0.3 |
| Setting discipline policy | | | | | | | | | |
| State Department of Education | 0.7 | — | 0.7 | 0.8 | 1.1 | 1.4 | 1.0 | 1.4 | 0.8 |
| School board | 0.8 | 1.7 | 0.8 | 1.0 | 1.6 | 2.1 | 1.8 | 2.7 | 1.1 |
| Principal | 1.1 | 2.8 | 1.1 | 1.6 | 2.4 | 2.5 | 2.4 | 2.4 | 1.4 |
| Teachers | 0.9 | 2.7 | 1.0 | 1.3 | 2.2 | 2.2 | 2.1 | 2.6 | 1.1 |
| Parent association | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.9 | 0.4 | 0.6 | 0.5 |

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91

## Table 47-4 Standard errors for estimated percentages in table 47-2

| Decisions | All schools | Private schools | Public schools | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Type of community | | | School enrollment | | |
| | | | Total | Rural/ small town | Urban fringe/large town | Central city | Less than 300 | 300 to 499 | 500 or more |
| **Percentage of teachers reporting faculty having a great deal of influence over school policies:** | | | | | | | | | |
| Determining discipline policy | 0.4 | 1.1 | 0.4 | 0.6 | 0.7 | 0.8 | 1.1 | 0.8 | 0.6 |
| Determining faculty training programs | 0.4 | 0.8 | 0.4 | 0.6 | 0.8 | 0.7 | 0.8 | 0.6 | 0.6 |
| Grouping students by ability | 0.3 | 1.0 | 0.4 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.6 |
| Establishing curriculum | 0.4 | 1.2 | 0.3 | 0.6 | 0.8 | 0.5 | 0.9 | 0.7 | 0.5 |
| **Percentage of teachers reporting themselves having complete control over classroom decisions:** | | | | | | | | | |
| Selecting textbooks | 1.0 | 1.2 | 0.4 | 0.7 | 1.1 | 0.8 | 1.0 | 0.8 | 0.5 |
| Selecting content & topics | 0.4 | 1.0 | 0.4 | 0.7 | 0.9 | 0.9 | 0.9 | 0.8 | 0.5 |
| Selecting teaching techniques | 0.5 | 1.1 | 0.5 | 0.8 | 1.2 | 1.1 | 1.0 | 1.0 | 0.7 |
| Grading students | 0.5 | 1.0 | 0.5 | 0.8 | 1.2 | 1.0 | 1.0 | 1.0 | 0.9 |
| Disciplining students | 0.5 | 1.2 | 0.5 | 0.7 | 1.0 | 1.0 | 1.2 | 0.8 | 0.7 |
| Determining amount of homework | 0.5 | 1.3 | 0.5 | 0.6 | 1.3 | 1.1 | 1.0 | 0.9 | 0.8 |
| **Percentage of principals reporting group having a great deal of influence over:** | | | | | | | | | |
| Establishing curriculum | | | | | | | | | |
| State Board of Education | 1.0 | — | 1.0 | 1.4 | 1.8 | 1.7 | 2.1 | 1.5 | 1.7 |
| School board | 0.7 | 1.4 | 0.7 | 1.0 | 1.8 | 1.7 | 1.1 | 1.5 | 1.4 |
| Principal | 0.7 | 1.8 | 0.9 | 1.0 | 1.8 | 1.8 | 1.4 | 1.7 | 1.3 |
| Teachers | 0.8 | 1.7 | 0.9 | 1.2 | 1.6 | 1.8 | 1.4 | 1.7 | 1.3 |
| Librarians/media specialists | 0.3 | 1.0 | 0.3 | 0.4 | 0.6 | 0.6 | 0.4 | 0.6 | 0.5 |
| Parent association | 0.3 | 1.0 | 0.3 | 0.2 | 0.7 | 0.8 | 0.7 | 0.4 | 0.5 |
| Hiring new full-time teachers | | | | | | | | | |
| School board | 0.7 | 1.5 | 0.8 | 1.2 | 1.3 | 1.6 | 1.5 | 1.3 | 1.2 |
| Principal | 0.8 | 1.3 | 0.9 | 1.4 | 1.7 | 2.1 | 1.9 | 1.3 | 1.4 |
| Teachers | 0.4 | 0.8 | 0.4 | 0.6 | 1.0 | 1.1 | 0.9 | 0.7 | 0.8 |
| Parent association | 0.2 | 0.4 | 0.2 | 0.2 | 0.6 | 0.1 | 0.6 | 0.3 | 0.1 |
| Setting discipline policy | | | | | | | | | |
| State Department of Education | 0.6 | — | 0.6 | 0.9 | 0.9 | 1.4 | 1.2 | 0.8 | 1.0 |
| School board | 0.9 | 1.5 | 1.1 | 1.3 | 1.8 | 2.2 | 1.8 | 1.9 | 1.4 |
| Principal | 0.8 | 1.2 | 1.0 | 1.4 | 2.0 | 2.4 | 2.0 | 1.4 | 1.8 |
| Teachers | 0.7 | 1.7 | 0.8 | 1.2 | 1.5 | 2.0 | 1.6 | 1.6 | 1.2 |
| Parent association | 0.5 | 1.1 | 0.5 | 0.6 | 0.9 | 1.1 | 0.9 | 0.8 | 0.7 |

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91

## Table 48-1 Percentage of students enrolled in schools offering various programs and services, by control, grade, and urbanicity: School year 1990–91

| Grade and urbanicity | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| | | | | **Public** | | | | |
| **Total** | **23.1** | **50.4** | **81.8** | **62.9** | **89.2** | **80.6** | **81.6** | **22.7** |
| Kindergarten | 25.1 | 49.3 | 84.7 | 57.9 | 86.2 | 79.1 | 82.3 | 36.1 |
| Rural/small town | 13.8 | 29.8 | 89.4 | 60.6 | 89.7 | 82.1 | 81.0 | 23.0 |
| Urban fringe/large town | 23.2 | 61.4 | 82.3 | 53.9 | 85.7 | 82.0 | 85.8 | 42.6 |
| Central city | 40.7 | 61.3 | 81.3 | 58.4 | 82.4 | 72.6 | 80.2 | 45.8 |
| 4th grade | 24.3 | 47.9 | 85.0 | 59.0 | 86.8 | 82.1 | 82.0 | 34.3 |
| Rural/small town | 14.0 | 30.4 | 90.7 | 64.1 | 90.3 | 86.5 | 79.4 | 20.0 |
| Urban fringe/large town | 24.3 | 60.1 | 82.6 | 54.2 | 87.0 | 84.0 | 85.6 | 42.2 |
| Central city | 38.2 | 58.4 | 80.0 | 57.3 | 82.0 | 74.3 | 81.6 | 44.9 |
| 8th grade | 22.9 | 52.4 | 79.4 | 64.7 | 91.9 | 84.7 | 80.9 | 8.9 |
| Rural/small town | 13.8 | 34.2 | 81.1 | 66.0 | 92.9 | 82.2 | 80.0 | 6.5 |
| Urban fringe/large town | 24.8 | 66.5 | 76.5 | 67.0 | 91.5 | 88.8 | 84.2 | 8.2 |
| Central city | 33.0 | 62.0 | 80.3 | 60.6 | 91.0 | 83.6 | 78.7 | 12.9 |
| 12th grade | 19.3 | 52.3 | 77.2 | 71.6 | 92.7 | 75.9 | 81.1 | 7.8 |
| Rural/small town | 13.0 | 33.3 | 73.3 | 69.2 | 93.5 | 73.2 | 78.1 | 6.4 |
| Urban fringe/large town | 19.5 | 66.7 | 81.6 | 74.9 | 94.1 | 78.9 | 84.4 | 6.8 |
| Central city | 28.7 | 64.5 | 77.9 | 71.5 | 89.7 | 76.4 | 81.9 | 11.3 |
| | | | | **Private** | | | | |
| **Total** | **4.2** | **14.6** | **61.1** | **45.6** | **16.9** | **35.3** | **45.8** | **47.1** |
| Kindergarten | 4.5 | 12.6 | 60.9 | 45.0 | 16.1 | 31.9 | 45.7 | 59.5 |
| Rural/small town | 3.7 | 9.0 | 60.7 | 43.6 | 18.4 | 38.4 | 42.4 | 40.0 |
| Urban fringe/large town | 4.2 | 13.7 | 59.4 | 45.0 | 14.8 | 31.2 | 48.7 | 59.5 |
| Central city | 5.0 | 13.8 | 62.2 | 45.6 | 16.1 | 29.6 | 44.9 | 68.1 |
| 4th grade | 4.2 | 12.8 | 64.7 | 47.6 | 16.5 | 31.5 | 49.0 | 52.9 |
| Rural/small town | 2.9 | 8.2 | 66.4 | 45.6 | 20.0 | 34.0 | 46.8 | 27.7 |
| Urban fringe/large town | 3.8 | 12.6 | 64.1 | 48.8 | 14.9 | 31.8 | 51.5 | 51.6 |
| Central city | 5.0 | 14.9 | 64.4 | 47.6 | 16.2 | 30.1 | 48.1 | 64.1 |
| 8th grade | 4.5 | 15.2 | 64.5 | 48.6 | 17.4 | 33.2 | 47.3 | 48.4 |
| Rural/small town | 3.6 | 15.0 | 66.9 | 45.7 | 19.7 | 36.1 | 43.5 | 25.2 |
| Urban fringe/large town | 4.2 | 14.3 | 64.5 | 52.6 | 14.9 | 33.5 | 52.0 | 46.5 |
| Central city | 5.0 | 16.0 | 63.7 | 46.8 | 18.2 | 31.9 | 45.5 | 58.4 |
| 12th grade | 3.6 | 19.4 | 52.3 | 40.0 | 18.4 | 48.4 | 39.6 | 17.9 |
| Rural/small town | 1.3 | 44.4 | 37.3 | 28.8 | 16.8 | 37.0 | 37.0 | 17.7 |
| Urban fringe/large town | 3.7 | 16.6 | 46.8 | 42.1 | 17.9 | 47.2 | 36.7 | 15.7 |
| Central city | 4.2 | 14.1 | 59.4 | 41.9 | 19.0 | 52.2 | 42.0 | 19.2 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-2 Percentage of students enrolled in public schools offering various programs and services, by grade and percentage of students receiving free lunch: School year 1990–91

| Grade and percent of students receiving free lunch | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| All grades | 23.0 | 50.4 | 81.8 | 62.9 | 89.2 | 80.6 | 81.6 | 22.7 |
| 0–5 | 14.7 | 62.8 | 82.4 | 63.5 | 88.6 | 84.6 | 87.7 | 25.2 |
| 6–20 | 16.0 | 48.9 | 79.4 | 59.6 | 89.7 | 82.8 | 84.0 | 19.3 |
| 21–40 | 19.1 | 44.4 | 81.5 | 62.9 | 90.2 | 84.1 | 78.2 | 21.7 |
| 41+ | 36.9 | 50.9 | 84.5 | 64.8 | 88.4 | 75.3 | 79.7 | 26.3 |
| Kindergarten | 25.0 | 49.3 | 84.7 | 57.9 | 86.2 | 79.1 | 82.3 | 36.1 |
| 0–5 | 13.3 | 62.6 | 82.3 | 51.4 | 83.1 | 89.5 | 88.7 | 51.2 |
| 6–20 | 14.8 | 49.2 | 83.6 | 47.2 | 85.0 | 82.8 | 85.9 | 36.7 |
| 21–40 | 17.7 | 42.0 | 83.8 | 59.3 | 88.2 | 81.4 | 79.5 | 32.2 |
| 41+ | 39.5 | 50.3 | 86.2 | 63.7 | 85.9 | 72.4 | 80.0 | 35.2 |
| 4th grade | 24.3 | 47.9 | 85.0 | 59.0 | 86.8 | 82.1 | 82.0 | 34.3 |
| 0–5 | 14.2 | 59.9 | 81.5 | 46.8 | 83.2 | 91.3 | 88.9 | 52.3 |
| 6–20 | 14.5 | 45.8 | 84.2 | 51.1 | 85.2 | 83.8 | 87.2 | 34.8 |
| 21–40 | 18.0 | 42.6 | 84.4 | 60.2 | 89.8 | 85.4 | 78.1 | 30.6 |
| 41+ | 37.6 | 49.3 | 86.5 | 65.2 | 86.3 | 76.1 | 79.6 | 32.5 |
| 8th grade | 22.9 | 52.4 | 79.4 | 64.7 | 91.9 | 84.7 | 80.9 | 8.9 |
| 0–5 | 20.8 | 63.0 | 85.3 | 71.1 | 91.5 | 84.5 | 87.2 | 8.2 |
| 6–20 | 15.4 | 51.4 | 77.6 | 64.7 | 92.3 | 87.4 | 83.2 | 5.8 |
| 21–40 | 18.5 | 45.7 | 77.6 | 63.0 | 89.6 | 87.5 | 75.3 | 10.0 |
| 41+ | 35.9 | 55.9 | 80.7 | 63.5 | 93.7 | 80.0 | 81.3 | 11.4 |
| 12th grade | 19.3 | 52.3 | 77.2 | 71.6 | 92.7 | 75.9 | 81.1 | 7.8 |
| 0–5 | 12.9 | 64.2 | 81.6 | 74.7 | 92.9 | 78.8 | 86.8 | 6.0 |
| 6–20 | 18.7 | 48.7 | 74.4 | 70.3 | 94.1 | 77.7 | 80.9 | 7.5 |
| 21–40 | 24.3 | 49.2 | 79.1 | 73.0 | 95.1 | 80.8 | 81.0 | 7.7 |
| 41+ | 27.0 | 45.2 | 81.5 | 71.4 | 91.0 | 69.5 | 74.7 | 10.7 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-3 Percentage of students enrolled in public schools offering various programs and services, by grade, urbanicity, and percentage of students receiving free lunch: School year 1990–91

| Grade, percent of students receiving free lunch, and urbanicity | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| 4th grade | 24.3 | 47.9 | 85.0 | 59.0 | 86.8 | 82.1 | 82.0 | 34.3 |
| 0–5 | 14.2 | 59.9 | 81.5 | 46.8 | 83.2 | 91.3 | 88.9 | 52.3 |
| 6–20 | 14.5 | 45.8 | 84.2 | 51.1 | 85.2 | 83.8 | 87.2 | 34.8 |
| 21–40 | 18.0 | 42.6 | 84.4 | 60.2 | 89.8 | 85.4 | 78.1 | 30.6 |
| 41+ | 37.6 | 49.3 | 86.5 | 65.2 | 86.3 | 76.1 | 79.6 | 32.5 |
| Rural/small town | 14.0 | 30.4 | 90.7 | 64.1 | 90.3 | 86.5 | 79.4 | 20.0 |
| 0–5 | 12.5 | 39.8 | 90.9 | 51.6 | 85.7 | 82.9 | 90.8 | 48.5 |
| 6–20 | 12.3 | 30.4 | 91.3 | 53.9 | 82.4 | 86.8 | 85.3 | 20.1 |
| 21–40 | 13.5 | 32.7 | 90.0 | 65.6 | 92.6 | 87.5 | 78.1 | 18.3 |
| 41+ | 15.0 | 25.5 | 91.2 | 70.9 | 93.8 | 85.8 | 74.4 | 16.3 |
| Urban fringe/large town | 24.3 | 60.1 | 82.6 | 54.2 | 87.0 | 84.0 | 85.6 | 42.2 |
| 0–5 | 14.0 | 66.6 | 82.7 | 48.0 | 81.4 | 94.0 | 88.7 | 51.8 |
| 6–20 | 16.3 | 56.4 | 82.8 | 51.4 | 88.0 | 82.8 | 87.6 | 44.4 |
| 21–40 | 17.6 | 51.8 | 80.8 | 59.8 | 83.1 | 83.7 | 80.0 | 43.9 |
| 41+ | 47.2 | 63.4 | 82.4 | 54.6 | 91.6 | 77.4 | 85.7 | 34.1 |
| Central city | 38.2 | 58.4 | 80.0 | 57.3 | 82.0 | 74.3 | 81.6 | 44.9 |
| 0–5 | 17.6 | 62.9 | 62.9 | 35.1 | 86.7 | 92.8 | 86.8 | 59.8 |
| 6–20 | 15.0 | 52.7 | 74.6 | 45.4 | 84.6 | 80.5 | 89.6 | 42.3 |
| 21–40 | 29.8 | 57.0 | 74.4 | 46.9 | 90.3 | 82.0 | 75.7 | 46.6 |
| 41+ | 50.3 | 60.6 | 84.9 | 66.1 | 78.0 | 68.0 | 80.7 | 44.2 |
| 12th grade | 19.3 | 52.3 | 77.2 | 71.6 | 92.7 | 75.9 | 81.8 | 7.8 |
| 0–5 | 12.9 | 64.2 | 81.6 | 74.7 | 92.9 | 78.8 | 86.8 | 6.0 |
| 6–20 | 18.7 | 48.7 | 74.4 | 70.3 | 94.1 | 77.7 | 80.9 | 7.5 |
| 21–40 | 24.3 | 49.2 | 79.1 | 73.0 | 95.1 | 80.8 | 81.0 | 7.7 |
| 41+ | 27.0 | 45.2 | 81.5 | 71.4 | 91.0 | 69.5 | 74.7 | 10.7 |
| Rural/small town | 13.0 | 33.3 | 73.3 | 69.2 | 93.5 | 73.2 | 78.1 | 6.4 |
| 0–5 | 14.4 | 50.3 | 80.0 | 73.5 | 90.4 | 75.8 | 80.4 | 6.7 |
| 6–20 | 10.9 | 33.7 | 70.0 | 68.0 | 95.7 | 73.5 | 81.2 | 4.9 |
| 21–40 | 12.2 | 25.2 | 76.2 | 69.4 | 95.2 | 78.3 | 76.0 | 5.9 |
| 41+ | 20.5 | 25.3 | 75.5 | 66.3 | 91.5 | 72.4 | 75.8 | 9.7 |
| Urban fringe/large town | 19.5 | 66.7 | 81.6 | 74.9 | 94.1 | 78.9 | 84.4 | 6.8 |
| 0–5 | 10.4 | 74.4 | 84.4 | 78.9 | 94.3 | 81.7 | 91.2 | 5.0 |
| 6–20 | 25.6 | 63.6 | 79.7 | 73.0 | 95.9 | 81.6 | 79.7 | 9.6 |
| 21–40 | 35.6 | 61.2 | 85.8 | 79.4 | 97.3 | 78.2 | 85.3 | 6.1 |
| 41+ | 19.9 | 49.7 | 83.7 | 64.2 | 94.9 | 63.4 | 69.5 | 8.9 |
| Central city | 28.7 | 64.5 | 77.9 | 71.5 | 89.7 | 76.9 | 81.9 | 11.3 |
| 0–5 | 21.1 | 54.2 | 72.1 | 57.5 | 93.0 | 73.1 | 83.5 | 9.5 |
| 6–20 | 24.5 | 57.6 | 76.0 | 71.0 | 89.0 | 80.5 | 81.9 | 9.6 |
| 21–40 | 34.6 | 75.8 | 79.2 | 74.3 | 93.7 | 85.7 | 85.5 | 11.2 |
| 41+ | 35.8 | 64.8 | 87.2 | 78.8 | 89.4 | 68.1 | 75.0 | 12.3 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-4 Percentage of students enrolled in public schools offering various programs and services, by state: School year 1990–91

| State | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| **Total** | **23.0** | **50.4** | **81.8** | **62.9** | **89.2** | **80.6** | **81.6** | **22.7** |
| Alabama | 6.0 | 11.1 | 75.0 | 52.9 | 95.4 | 71.1 | 74.8 | 21.3 |
| Alaska | 65.1 | 68.3 | 74.6 | 65.2 | 87.8 | 90.8 | 93.3 | 16.9 |
| Arizona | 36.1 | 78.3 | 76.1 | 53.3 | 87.0 | 91.3 | 81.0 | 31.1 |
| Arkansas | 3.2 | 7.2 | 85.3 | 64.6 | 93.2 | 98.0 | 64.7 | 9.3 |
| California | 60.1 | 84.2 | 73.8 | 59.9 | 81.2 | 79.9 | 82.2 | 30.9 |
| Colorado | 22.7 | 58.4 | 70.0 | 46.5 | 84.7 | 79.6 | 84.9 | 17.4 |
| Connecticut | 20.2 | 63.1 | 95.1 | 79.7 | 89.3 | 79.5 | 95.5 | 25.6 |
| Delaware | 16.4 | 52.3 | 93.2 | 72.7 | 96.1 | 88.9 | 94.0 | 20.4 |
| District of Columbia | 17.2 | 33.8 | 93.5 | 78.8 | 84.2 | 89.9 | 74.0 | 60.8 |
| Florida | 37.7 | 57.2 | 72.0 | 63.7 | 95.9 | 82.1 | 82.7 | 41.3 |
| Georgia | 7.9 | 44.0 | 90.9 | 90.0 | 94.0 | 91.3 | 81.3 | 24.3 |
| Hawaii | 39.4 | 91.6 | 67.7 | 38.0 | 94.1 | 95.7 | 85.3 | 69.3 |
| Idaho | 24.0 | 47.2 | 86.5 | 85.1 | 95.6 | 77.0 | 90.7 | 6.5 |
| Illinois | 19.6 | 30.3 | 83.7 | 55.2 | 84.0 | 85.1 | 83.4 | 21.1 |
| Indiana | 10.0 | 25.5 | 76.5 | 52.0 | 85.5 | 78.2 | 82.1 | 20.8 |
| Iowa | 3.1 | 36.7 | 74.5 | 51.0 | 87.1 | 94.0 | 72.9 | 13.1 |
| Kansas | 9.4 | 35.4 | 65.6 | 48.1 | 89.2 | 90.5 | 76.2 | 10.1 |
| Kentucky | 2.7 | 14.2 | 84.7 | 53.4 | 92.2 | 78.3 | 73.9 | 40.7 |
| Louisiana | 12.2 | 30.7 | 61.9 | 51.2 | 92.7 | 76.1 | 80.7 | 21.1 |
| Maine | 3.5 | 37.9 | 75.7 | 60.9 | 95.7 | 86.7 | 86.3 | 12.9 |
| Maryland | 11.4 | 45.1 | 84.5 | 59.3 | 82.4 | 81.4 | 80.0 | 29.9 |
| Massachusetts | 27.5 | 60.7 | 89.5 | 59.7 | 80.3 | 40.1 | 85.8 | 15.5 |
| Michigan | 23.9 | 29.0 | 82.3 | 63.1 | 90.0 | 69.0 | 81.3 | 23.9 |
| Minnesota | 8.1 | 54.1 | 78.6 | 69.4 | 95.7 | 77.1 | 82.6 | 24.3 |
| Mississippi | 10.4 | 13.1 | 76.5 | 68.7 | 91.1 | 75.5 | 66.5 | 13.9 |
| Missouri | 3.4 | 27.0 | 73.8 | 42.3 | 91.7 | 65.2 | 80.3 | 17.7 |
| Montana | 4.1 | 15.4 | 84.3 | 69.5 | 82.3 | 47.7 | 80.4 | 6.7 |
| Nebraska | 5.5 | 23.7 | 77.0 | 63.0 | 93.1 | 76.8 | 87.7 | 14.4 |
| Nevada | 15.0 | 62.9 | 72.4 | 42.8 | 94.4 | 73.3 | 86.4 | 35.0 |
| New Hampshire | 6.1 | 63.8 | 76.0 | 47.8 | 98.1 | 48.1 | 92.6 | 16.1 |
| New Jersey | 27.8 | 74.8 | 95.6 | 94.8 | 86.2 | 84.9 | 89.6 | 26.2 |
| New Mexico | 48.3 | 64.7 | 75.0 | 53.0 | 88.4 | 83.4 | 87.8 | 17.2 |
| New York | 27.5 | 68.5 | 97.6 | 91.9 | 90.7 | 78.6 | 89.8 | 24.1 |
| North Carolina | 11.3 | 18.5 | 79.2 | 53.9 | 94.1 | 92.2 | 73.8 | 40.9 |
| North Dakota | 6.7 | 26.6 | 76.4 | 53.1 | 90.8 | 41.9 | 86.0 | 5.5 |
| Ohio | 8.6 | 30.2 | 86.7 | 35.4 | 95.3 | 65.6 | 77.1 | 16.6 |
| Oklahoma | 13.7 | 23.7 | 73.0 | 41.9 | 86.4 | 92.4 | 74.3 | 8.9 |
| Oregon | 17.5 | 62.8 | 86.7 | 73.1 | 91.3 | 72.0 | 90.0 | 21.1 |
| Pennsylvania | 7.5 | 42.2 | 89.2 | 74.4 | 85.3 | 92.1 | 76.9 | 17.6 |
| Rhode Island | 16.8 | 73.9 | 87.5 | 46.8 | 91.2 | 61.6 | 95.3 | 7.2 |
| South Carolina | 11.2 | 28.7 | 97.6 | 96.7 | 95.8 | 90.2 | 74.6 | 15.4 |
| South Dakota | 7.5 | 25.3 | 80.7 | 71.0 | 90.6 | 93.8 | 81.9 | 5.6 |
| Tennessee | 6.8 | 23.5 | 71.9 | 69.6 | 95.1 | 81.9 | 77.7 | 22.4 |
| Texas | 35.2 | 82.7 | 83.0 | 55.3 | 88.4 | 90.5 | 85.1 | 17.8 |
| Utah | 25.9 | 35.4 | 85.7 | 76.8 | 86.8 | 68.3 | 86.4 | 9.8 |
| Vermont | 5.7 | 27.5 | 85.7 | 66.2 | 92.5 | 41.3 | 88.3 | 13.1 |
| Virginia | 6.1 | 52.2 | 87.6 | 65.9 | 97.4 | 98.5 | 73.1 | 18.1 |
| Washington | 28.3 | 65.2 | 90.0 | 81.0 | 88.1 | 67.0 | 81.4 | 16.2 |
| West Virginia | 3.6 | 11.6 | 70.1 | 53.4 | 89.2 | 88.9 | 74.8 | 6.9 |
| Wisconsin | 9.4 | 37.7 | 83.8 | 48.0 | 91.6 | 82.6 | 83.1 | 14.8 |
| Wyoming | 14.7 | 34.9 | 84.9 | 51.0 | 91.9 | 59.6 | 87.2 | 12.4 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-5 Standard errors for estimated percentage in table 48-1

| Grade and urbanicity | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| **Public** | | | | | | | | |
| **Total** | **0.7** | **0.7** | **0.5** | **0.7** | **0.5** | **0.7** | **0.6** | **0.7** |
| Kindergarten | 1.0 | 1.2 | 0.9 | 1.1 | 0.8 | 1.0 | 0.9 | 1.2 |
| Rural/small town | 1.1 | 1.9 | 1.0 | 1.7 | 0.9 | 1.0 | 1.4 | 1.2 |
| Urban fringe/large town | 2.0 | 2.0 | 1.5 | 2.3 | 1.6 | 1.6 | 1.7 | 2.2 |
| Central city | 1.6 | 1.9 | 1.7 | 2.0 | 1.9 | 2.8 | 2.1 | 2.5 |
| 4th grade | 1.0 | 1.1 | 0.8 | 1.2 | 0.8 | 0.9 | 1.0 | 1.2 |
| Rural/small town | 1.4 | 1.8 | 0.9 | 1.8 | 1.0 | 0.8 | 1.7 | 1.2 |
| Urban fringe/large town | 2.0 | 2.1 | 1.4 | 2.2 | 1.4 | 1.5 | 1.6 | 2.0 |
| Central city | 1.7 | 1.9 | 1.9 | 2.0 | 1.8 | 2.4 | 1.9 | 2.7 |
| 8th grade | 1.6 | 1.7 | 1.2 | 1.3 | 1.0 | 1.1 | 1.2 | 0.9 |
| Rural/small town | 1.8 | 2.0 | 1.6 | 1.7 | 1.2 | 1.7 | 1.7 | 1.0 |
| Urban fringe/large town | 3.0 | 3.0 | 2.5 | 3.2 | 2.3 | 1.7 | 2.8 | 1.5 |
| Central city | 3.2 | 3.0 | 2.8 | 2.8 | 1.8 | 1.9 | 2.0 | 1.9 |
| 12th grade | 1.3 | 1.1 | 0.9 | 1.1 | 0.6 | 0.9 | 0.9 | 0.7 |
| Rural/small town | 1.5 | 1.8 | 1.3 | 1.4 | 0.8 | 1.2 | 1.3 | 0.9 |
| Urban fringe/large town | 2.4 | 2.2 | 1.6 | 1.8 | 1.2 | 1.8 | 1.7 | 1.1 |
| Central city | 3.1 | 2.2 | 1.9 | 1.9 | 1.5 | 1.9 | 2.1 | 1.9 |
| **Private** | | | | | | | | |
| **Total** | **0.6** | **1.1** | **1.3** | **1.2** | **1.1** | **1.4** | **1.4** | **1.3** |
| Kindergarten | 0.6 | 1.1 | 1.7 | 1.6 | 1.0 | 1.5 | 1.7 | 1.5 |
| Rural/small town | 1.3 | 1.9 | 3.8 | 3.3 | 2.7 | 3.0 | 3.6 | 4.1 |
| Urban fringe/large town | 1.0 | 1.9 | 2.5 | 2.7 | 1.7 | 2.9 | 2.5 | 2.5 |
| Central city | 1.0 | 1.7 | 2.3 | 2.4 | 1.8 | 2.2 | 2.8 | 2.1 |
| 4th grade | 0.7 | 1.3 | 1.5 | 1.5 | 1.1 | 1.7 | 1.8 | 1.4 |
| Rural/small town | 0.9 | 1.9 | 2.5 | 3.3 | 2.9 | 3.1 | 3.6 | 3.1 |
| Urban fringe/large town | 0.9 | 1.8 | 2.5 | 2.6 | 1.7 | 3.2 | 2.5 | 2.4 |
| Central city | 1.2 | 2.2 | 2.2 | 2.4 | 1.9 | 2.3 | 2.9 | 2.0 |
| 8th grade | 0.8 | 1.6 | 1.5 | 1.5 | 1.5 | 1.9 | 1.8 | 1.4 |
| Rural/small town | 1.6 | 3.2 | 2.6 | 3.2 | 3.0 | 3.8 | 3.4 | 3.3 |
| Urban fringe/large town | 1.1 | 2.0 | 2.6 | 2.9 | 2.1 | 3.5 | 2.9 | 2.7 |
| Central city | 1.3 | 2.5 | 2.5 | 2.3 | 2.2 | 2.7 | 2.9 | 2.2 |
| 12th grade | 1.0 | 2.0 | 2.7 | 2.5 | 2.2 | 2.1 | 2.8 | 1.7 |
| Rural/small town | 0.7 | 7.1 | 6.6 | 5.0 | 3.4 | 6.3 | 6.3 | 3.1 |
| Urban fringe/large town | 1.2 | 2.9 | 4.6 | 5.0 | 3.7 | 4.1 | 5.0 | 2.5 |
| Central city | 1.6 | 2.6 | 3.4 | 3.4 | 3.4 | 3.3 | 3.7 | 2.8 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-6 Standard errors for estimated percentages in table 48-2

| Grade and percent of students receiving free lunch | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| All grades | 0.7 | 0.7 | 0.5 | 0.7 | 0.5 | 0.7 | 0.6 | 0.7 |
| 0–5 | 1.6 | 2.0 | 1.4 | 2.3 | 1.3 | 1.4 | 1.5 | 2.5 |
| 6–20 | 1.2 | 1.3 | 1.3 | 1.4 | 1.1 | 1.2 | 0.9 | 1.0 |
| 21–40 | 1.4 | 1.5 | 0.9 | 1.5 | 1.0 | 1.2 | 1.5 | 1.2 |
| 41+ | 1.5 | 1.4 | 1.1 | 1.4 | 1.1 | 1.3 | 1.3 | 1.6 |
| Kindergarten | 1.0 | 1.2 | 0.9 | 1.1 | 0.8 | 1.0 | 0.9 | 1.2 |
| 0–5 | 2.8 | 3.1 | 2.6 | 4.7 | 2.5 | 1.9 | 2.5 | 5.5 |
| 6–20 | 1.6 | 2.6 | 2.0 | 2.3 | 2.0 | 2.1 | 1.6 | 2.4 |
| 21–40 | 1.8 | 2.2 | 1.5 | 1.9 | 1.5 | 2.0 | 1.9 | 2.2 |
| 41+ | 2.1 | 1.8 | 1.3 | 2.1 | 1.4 | 1.9 | 1.8 | 2.0 |
| 4th grade | 1.0 | 1.0 | 0.8 | 1.2 | 0.8 | 0.8 | 1.0 | 1.2 |
| 0–5 | 2.7 | 3.3 | 2.4 | 4.4 | 2.4 | 1.7 | 2.4 | 5.0 |
| 6–20 | 1.8 | 2.2 | 1.9 | 2.6 | 2.0 | 2.1 | 1.4 | 2.4 |
| 21–40 | 2.2 | 2.2 | 1.4 | 1.9 | 1.3 | 1.3 | 1.8 | 2.1 |
| 41+ | 1.9 | 2.1 | 1.5 | 2.0 | 1.5 | 1.7 | 1.9 | 1.8 |
| 8th grade | 1.6 | 1.7 | 1.1 | 1.3 | 1.0 | 1.1 | 1.2 | 0.9 |
| 0–5 | 5.6 | 5.2 | 3.8 | 5.4 | 3.1 | 3.7 | 3.9 | 2.5 |
| 6–20 | 2.4 | 3.0 | 2.5 | 2.5 | 1.5 | 1.5 | 2.2 | 1.2 |
| 21–40 | 2.7 | 3.0 | 2.0 | 2.8 | 2.4 | 1.5 | 3.1 | 1.5 |
| 41+ | 3.3 | 3.3 | 2.3 | 2.7 | 1.4 | 2.2 | 1.9 | 2.3 |
| 12th grade | 1.3 | 1.1 | 0.9 | 1.1 | 0.6 | 0.9 | 0.8 | 0.7 |
| 0–5 | 1.9 | 2.8 | 1.8 | 2.1 | 1.5 | 2.2 | 1.8 | 1.0 |
| 6–20 | 2.0 | 2.1 | 1.7 | 1.7 | 1.0 | 1.7 | 1.4 | 0.9 |
| 21–40 | 2.8 | 2.7 | 2.0 | 2.1 | 1.1 | 2.1 | 1.8 | 1.6 |
| 41+ | 3.7 | 3.3 | 2.0 | 2.9 | 1.7 | 3.0 | 3.3 | 2.2 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-7 Standard errors for estimated percentages in table 48-3

| Grade, percent of students receiving free lunch, and urbanicity | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| **4th grade** | 1.0 | 1.1 | 0.8 | 1.2 | 0.8 | 0.9 | 1.0 | 1.2 |
| 0–5 | 2.7 | 3.3 | 2.4 | 4.4 | 2.4 | 1.7 | 2.4 | 5.0 |
| 6–20 | 1.8 | 2.2 | 1.9 | 2.6 | 2.0 | 2.1 | 1.4 | 2.4 |
| 21–40 | 2.2 | 2.2 | 1.4 | 1.9 | 1.3 | 1.3 | 1.8 | 2.1 |
| 41+ | 1.9 | 2.1 | 1.5 | 2.0 | 1.5 | 1.7 | 1.9 | 1.8 |
| Rural/small town | 1.4 | 1.8 | 0.9 | 1.8 | 1.0 | 0.8 | 1.7 | 1.2 |
| 0–5 | 5.4 | 9.6 | 4.4 | 8.9 | 5.4 | 5.1 | 5.4 | 7.1 |
| 6–20 | 2.6 | 2.7 | 1.7 | 3.4 | 3.0 | 2.0 | 2.3 | 2.8 |
| 21–40 | 3.3 | 3.1 | 1.5 | 2.8 | 1.3 | 1.1 | 2.6 | 2.0 |
| 41+ | 2.3 | 3.7 | 2.0 | 2.7 | 1.4 | 1.5 | 3.0 | 2.1 |
| Urban finge/large town | 2.0 | 2.1 | 1.4 | 2.2 | 1.4 | 1.5 | 1.6 | 2.0 |
| 0–5 | 3.9 | 4.1 | 3.9 | 5.8 | 3.2 | 2.0 | 3.0 | 7.0 |
| 6–20 | 3.1 | 3.9 | 3.2 | 4.3 | 2.7 | 3.2 | 2.8 | 4.0 |
| 21–40 | 3.1 | 3.8 | 4.2 | 4.3 | 3.6 | 3.9 | 4.2 | 5.4 |
| 41+ | 5.1 | 5.5 | 3.5 | 5.5 | 2.6 | 3.7 | 3.1 | 3.5 |
| Central city | 1.7 | 1.9 | 1.9 | 2.0 | 1.8 | 2.4 | 1.9 | 2.7 |
| 0–5 | 6.9 | 8.2 | 9.5 | 8.1 | 6.0 | 4.7 | 6.1 | 9.4 |
| 6–20 | 4.7 | 6.3 | 4.6 | 5.6 | 4.8 | 6.1 | 3.4 | 5.5 |
| 21–40 | 4.2 | 4.5 | 4.0 | 4.3 | 2.7 | 3.1 | 4.5 | 4.6 |
| 41+ | 2.4 | 2.7 | 2.3 | 2.5 | 2.5 | 3.1 | 2.6 | 3.3 |
| **12th grade** | 1.3 | 1.1 | 0.9 | 1.1 | 0.6 | 0.9 | 0.8 | 0.7 |
| 0–5 | 1.9 | 2.8 | 1.8 | 2.1 | 1.5 | 2.2 | 1.8 | 1.0 |
| 6–20 | 2.0 | 2.1 | 1.7 | 1.7 | 1.0 | 1.7 | 1.4 | 0.9 |
| 21–40 | 2.8 | 2.7 | 2.0 | 2.1 | 1.1 | 2.1 | 1.8 | 1.6 |
| 41+ | 3.7 | 3.3 | 2.0 | 2.9 | 1.7 | 3.0 | 3.3 | 2.2 |
| Rural/small town | 1.5 | 1.8 | 1.3 | 1.4 | 0.8 | 1.2 | 1.3 | 0.9 |
| 0–5 | 3.6 | 4.6 | 3.4 | 3.5 | 2.2 | 3.7 | 3.5 | 1.5 |
| 6–20 | 2.2 | 3.0 | 2.4 | 2.5 | 1.3 | 2.3 | 2.1 | 1.2 |
| 21–40 | 2.7 | 2.9 | 2.0 | 2.3 | 1.0 | 2.1 | 2.3 | 1.6 |
| 41+ | 5.4 | 5.0 | 3.3 | 4.0 | 1.7 | 3.2 | 2.8 | 4.3 |
| Urban finge/large town | 2.4 | 2.2 | 1.6 | 1.8 | 1.2 | 1.8 | 1.7 | 1.1 |
| 0–5 | 2.3 | 3.7 | 2.7 | 3.0 | 2.2 | 3.3 | 2.0 | 1.4 |
| 6–20 | 4.4 | 4.5 | 3.7 | 2.8 | 1.6 | 3.0 | 3.2 | 2.1 |
| 21–40 | 9.2 | 7.7 | 3.1 | 5.2 | 1.7 | 6.6 | 4.5 | 3.2 |
| 41+ | 6.9 | 7.8 | 5.5 | 8.2 | 2.4 | 7.9 | 7.6 | 3.6 |
| Central city | 3.1 | 2.2 | 1.9 | 1.9 | 1.5 | 1.9 | 2.1 | 1.9 |
| 0–5 | 5.0 | 8.3 | 6.6 | 6.2 | 3.4 | 5.1 | 5.6 | 4.1 |
| 6–20 | 4.3 | 3.6 | 3.3 | 3.4 | 2.8 | 3.0 | 2.8 | 2.6 |
| 21–40 | 4.2 | 3.9 | 5.6 | 5.5 | 2.6 | 3.5 | 3.1 | 3.7 |
| 41+ | 6.4 | 4.9 | 2.7 | 3.4 | 2.8 | 5.1 | 7.7 | 2.9 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 48-8 Standard errors for estimated percentages in table 48-4

| State | Bilingual education | English as a second language | Remedial reading | Remedial math | Programs for the handi-capped | Programs for the gifted and talented | Diagnostic and prescriptive services | Extended day |
|---|---|---|---|---|---|---|---|---|
| **Total** | **0.7** | **0.7** | **0.5** | **0.7** | **0.5** | **0.7** | **0.6** | **0.7** |
| Alabama | 2.1 | 2.7 | 3.2 | 4.1 | 1.6 | 3.3 | 3.9 | 3.7 |
| Alaska | 5.2 | 4.1 | 4.9 | 5.1 | 3.5 | 3.5 | 2.2 | 3.3 |
| Arizona | 3.7 | 3.4 | 3.6 | 3.8 | 3.0 | 1.9 | 3.3 | 3.6 |
| Arkansas | 1.5 | 2.1 | 3.2 | 4.5 | 1.8 | 1.2 | 4.3 | 3.2 |
| California | 3.6 | 2.2 | 3.1 | 3.5 | 2.7 | 3.0 | 3.0 | 3.2 |
| Colorado | 4.1 | 4.1 | 4.7 | 3.7 | 3.3 | 3.6 | 3.1 | 3.5 |
| Connecticut | 4.3 | 4.4 | 2.0 | 3.4 | 2.8 | 3.8 | 2.1 | 3.4 |
| Delaware | 5.7 | 7.0 | 3.4 | 6.2 | 2.2 | 4.7 | 2.7 | 5.0 |
| District of Columbia | 4.3 | 8.3 | 2.3 | 6.1 | 5.7 | 5.1 | 6.6 | 7.1 |
| Florida | 3.7 | 3.1 | 3.2 | 3.1 | 1.6 | 2.9 | 3.2 | 3.8 |
| Georgia | 2.7 | 3.5 | 3.2 | 3.2 | 2.5 | 1.9 | 2.9 | 3.6 |
| Hawaii | 4.6 | 3.0 | 4.6 | 5.3 | 2.2 | 2.3 | 4.7 | 4.9 |
| Idaho | 4.0 | 4.0 | 3.2 | 3.4 | 1.8 | 3.0 | 2.6 | 2.1 |
| Illinois | 3.5 | 3.6 | 3.4 | 4.7 | 3.0 | 2.5 | 2.9 | 2.8 |
| Indiana | 2.2 | 3.2 | 3.9 | 4.1 | 3.1 | 3.0 | 2.5 | 3.2 |
| Iowa | 1.7 | 6.6 | 5.0 | 4.7 | 4.6 | 2.0 | 5.8 | 4.4 |
| Kansas | 2.8 | 3.7 | 3.9 | 3.7 | 2.6 | 2.4 | 3.4 | 3.5 |
| Kentucky | 1.7 | 3.4 | 2.8 | 4.2 | 2.4 | 4.7 | 3.4 | 3.8 |
| Louisiana | 2.7 | 3.7 | 4.1 | 4.0 | 2.3 | 3.1 | 2.9 | 3.6 |
| Maine | 1.1 | 3.7 | 3.7 | 4.5 | 2.0 | 3.9 | 3.1 | 3.6 |
| Maryland | 3.3 | 4.6 | 3.4 | 4.2 | 3.9 | 4.3 | 4.7 | 4.2 |
| Massachusetts | 4.0 | 5.1 | 2.9 | 4.9 | 4.3 | 5.1 | 3.9 | 4.0 |
| Michigan | 3.0 | 3.7 | 3.0 | 4.3 | 2.2 | 4.3 | 4.0 | 4.0 |
| Minnesota | 1.7 | 3.2 | 3.5 | 4.1 | 1.5 | 3.5 | 3.1 | 3.4 |
| Mississippi | 2.8 | 2.4 | 3.2 | 3.3 | 2.4 | 3.6 | 3.7 | 2.3 |
| Missouri | 1.6 | 3.8 | 3.3 | 4.0 | 2.0 | 3.9 | 3.1 | 3.5 |
| Montana | 1.6 | 3.0 | 3.3 | 3.8 | 5.2 | 5.3 | 2.6 | 2.4 |
| Nebraska | 2.5 | 4.8 | 4.6 | 4.9 | 1.8 | 3.3 | 3.3 | 3.6 |
| Nevada | 3.8 | 5.7 | 4.1 | 5.0 | 2.6 | 5.2 | 3.1 | 5.2 |
| New Hampshire | 2.1 | 5.0 | 4.7 | 4.6 | 1.2 | 5.4 | 2.4 | 3.9 |
| New Jersey | 4.0 | 3.8 | 1.6 | 1.9 | 2.9 | 3.0 | 2.3 | 4.1 |
| New Mexico | 4.4 | 4.4 | 4.4 | 4.7 | 3.7 | 3.1 | 3.2 | 3.1 |
| New York | 3.2 | 3.9 | 1.5 | 2.3 | 2.4 | 2.8 | 2.3 | 3.6 |
| North Carolina | 2.4 | 3.0 | 3.1 | 4.3 | 2.2 | 1.8 | 3.6 | 3.9 |
| North Dakota | 1.8 | 3.0 | 3.4 | 4.0 | 1.8 | 3.3 | 2.6 | 1.6 |
| Ohio | 2.4 | 3.5 | 2.3 | 4.0 | 1.9 | 3.6 | 3.4 | 2.6 |
| Oklahoma | 2.7 | 4.1 | 3.8 | 4.9 | 3.2 | 2.0 | 4.0 | 2.3 |
| Oregon | 3.9 | 4.8 | 3.8 | 4.3 | 2.8 | 3.3 | 2.5 | 4.4 |
| Pennsylvania | 2.1 | 3.1 | 2.7 | 3.6 | 2.3 | 2.0 | 3.1 | 3.0 |
| Rhode Island | 4.1 | 4.0 | 3.9 | 5.6 | 3.0 | 4.8 | 2.4 | 2.1 |
| South Carolina | 2.6 | 3.8 | 0.8 | 1.5 | 1.6 | 2.3 | 3.6 | 3.0 |
| South Dakota | 2.6 | 3.5 | 3.0 | 4.3 | 2.4 | 1.5 | 2.7 | 2.3 |
| Tennessee | 2.4 | 3.5 | 3.5 | 3.8 | 1.6 | 2.5 | 3.3 | 3.8 |
| Texas | 2.4 | 2.1 | 2.1 | 3.4 | 2.1 | 2.0 | 2.4 | 2.8 |
| Utah | 3.4 | 4.2 | 2.9 | 3.4 | 3.1 | 3.7 | 2.0 | 2.2 |
| Vermont | 2.9 | 4.8 | 4.7 | 5.2 | 2.9 | 5.3 | 2.9 | 3.3 |
| Virginia | 2.3 | 3.7 | 2.9 | 4.4 | 1.2 | 0.4 | 4.0 | 2.9 |
| Washington | 4.1 | 3.7 | 1.8 | 3.7 | 3.2 | 4.1 | 3.5 | 3.5 |
| West Virginia | 2.0 | 2.1 | 4.2 | 4.0 | 2.5 | 3.0 | 3.8 | 2.1 |
| Wisconsin | 2.1 | 4.9 | 3.0 | 4.2 | 2.7 | 3.0 | 2.8 | 4.0 |
| Wyoming | 3.4 | 4.3 | 4.1 | 4.6 | 2.6 | 4.6 | 2.5 | 2.6 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Note on programs and services offered by schools

Definitions of programs and services indicated by respondent schools in the Schools and Staffing Survey, 1990–91

*Bilingual education* — Native language is used to varying degrees in instruction of students with limited English proficiency.

*English as a second language* — Students with limited English proficiency are provided with intensive instruction in English.

*Remedial reading* — Organized compensatory, diagnostic, and remedial activities designed to correct and prevent difficulties in the development of reading skills.

*Remedial mathematics* — Organized compensatory, diagnostic, and remedial activities designed to correct and prevent difficulties in the development of mathematical skills.

*Programs for the handicapped* — Instruction for the mentally retarded, specific learning disabled, physically handicapped, and other handicapped.

*Programs for the gifted and talented* — Activities designed to permit gifted and talented students to further develop their abilities.

*Diagnostic and prescriptive services* — Services provided by trained professionals to diagnose learning problems of students and to plan and provide therapeutic or educational programs based upon such services.

*Extended day* — Before- or after-school day-care programs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 49-1 International comparisons of instructional time in the classroom for 13-year-olds: School year 1990–91

| Country | Averge days of instruction in year | Average minutes of instruction in school each day | Average hours of instruction in school each day | Average hours of instruction in year |
|---|---|---|---|---|
| Canada[1] | 188 | 304 | 5.1 | 953 |
| England[1] | 192 | 300 | 5.0 | 960 |
| France[1] | 174 | 370 | 6.2 | 1,073 |
| Germany[2] | 210 | 276 | 4.6 | 966 |
| Italy[1,4] | 204 | 289 | 4.8 | 983 |
| Japan[3] | 220 | 239 | 4.0 | 875 |
| Korea[1] | 222 | 264 | 4.4 | 977 |
| Taiwan[1] | 222 | 318 | 5.3 | 1,177 |
| United States[1] | 178 | 338 | 5.6 | 1,003 |

[1] From the Second International Assessment of Educational Progress (IAEP) school questionnaire. Jackknife standard errors range from between 0 and 9.9 for the first two columns of data.

[2] Unpublished tabulations. International Association for the Evaluation of Educational Achievement (IEA), Study of Reading Literacy, 1992.

[3] There are reported to be approximately 240 days in the Japanese school year according to the IEA Second International Study of Mathematics Achievement. This includes Monday through Friday and a half day on Saturday. This equates to 40 weeks with 12 weeks of vacation. There are approximately 40 half days on Saturdays, leaving the equivalent of 220 school days in the Japanese school year. *Monbushu* reports the number of hours of instruction per year of Japanese 7th, 8th, and 9th graders as 1050. However, the report states that 1 hour is equivalent to 50 minutes of instruction. Therefore, to make the Japanese figures comparable to the hours of instruction reported in the Second International Assessment of Educational Progress for other countries, the number of hours in the Japanese school day was multiplied by the ratio of 50 minutes to 60.

[4] Data for Italy refers to the province of Emilia-Romagna only.

SOURCE: Educational Testing Service, International Assessment of Educational Progress, *Learning Mathematics*, 1992; National Institute for Educational Research, Ministry of Education, Science and Culture, Government of Japan, *Monbushu* 1992; The International Association for the Evaluation for Educational Achievement, Study of Reading Literacy, unpublished tabulations, 1992.

## Table 49-2 Amount of time spent in school by U.S. students, by control, level, urbanicity, and percentage of students receiving free lunch: School year 1990–91

| | Days in school year | Length of day (hours) | Average hours in school per year |
|---|---|---|---|
| **All schools** | **179.7** | **6.4** | **1,157** |
| Public | 179.6 | 6.4 | 1,154 |
| Elementary | 179.4 | 6.4 | 1,148 |
| Secondary | 179.7 | 6.5 | 1,171 |
| Combined | 182.9 | 6.4 | 1,168 |
| Urbanicity | | | |
| Rural/small town | 178.8 | 6.5 | 1,167 |
| Urban fringe/large town | 180.7 | 6.3 | 1,142 |
| Central city | 180.2 | 6.3 | 1,142 |
| Percent of students receiving free lunch | | | |
| 0–5 | 180.7 | 6.5 | 1,171 |
| 6–20 | 179.5 | 6.5 | 1,170 |
| 21–40 | 179.5 | 6.5 | 1,168 |
| 41 and over | 179.9 | 6.4 | 1,158 |
| Private | 179.8 | 6.5 | 1,163 |
| Elementary | 179.1 | 6.4 | 1,147 |
| Secondary | 181.3 | 6.7 | 1,205 |
| Combined | 180.8 | 6.6 | 1,186 |
| Urbanicity | | | |
| Rural/small town | 179.1 | 6.5 | 1,167 |
| Urban fringe/large town | 180.4 | 6.4 | 1,161 |
| Central city | 179.9 | 6.5 | 1,163 |
| Catholic | | | |
| Parochial | 178.9 | 6.4 | 1,139 |
| Diocesan | 179.7 | 6.3 | 1,141 |
| Private order | 178.8 | 6.6 | 1,174 |
| Other Religious | | | |
| Conservative Christian | 178.9 | 6.6 | 1,175 |
| Affiliated | 179.3 | 6.7 | 1,202 |
| Unaffiliated | 178.1 | 6.5 | 1,153 |
| Nonsectarian | | | |
| Regular | 180.7 | 6.7 | 1,208 |
| Special emphasis | 180.3 | 6.2 | 1,117 |
| Special education | 197.3 | 5.8 | 1,152 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 49-3 Amount of time spent in public schools, by state: School year 1990–91

| State | Average days per year | Average hours per day | Average hours per year |
|---|---|---|---|
| Mississippi | 181.7 | 6.9 | 1,248 |
| Texas | 175.7 | 7.1 | 1,239 |
| Wisconsin | 181.0 | 6.8 | 1,228 |
| Iowa | 180.1 | 6.8 | 1,227 |
| Tennessee | 181.3 | 6.7 | 1,223 |
| Alabama | 176.5 | 6.9 | 1,220 |
| South Carolina | 180.6 | 6.7 | 1,212 |
| West Virginia | 180.6 | 6.7 | 1,207 |
| Arkansas | 179.2 | 6.7 | 1,204 |
| Georgia | 180.4 | 6.7 | 1,202 |
| Florida | 180.8 | 6.6 | 1,195 |
| Delaware | 180.3 | 6.6 | 1,192 |
| Indiana | 180.8 | 6.6 | 1,185 |
| Kansas | 178.9 | 6.6 | 1,183 |
| Louisiana | 179.8 | 6.6 | 1,180 |
| Kentucky | 179.5 | 6.6 | 1,179 |
| Pennsylvania | 181.0 | 6.5 | 1,175 |
| North Carolina | 180.9 | 6.5 | 1,173 |
| New York | 182.7 | 6.4 | 1,173 |
| Nebraska | 177.5 | 6.6 | 1,171 |
| New Mexico | 181.1 | 6.5 | 1,168 |
| Virginia | 180.9 | 6.4 | 1,159 |
| Alaska | 180.6 | 6.4 | 1,158 |
| Missouri | 176.8 | 6.6 | 1,158 |
| Maryland | 180.6 | 6.4 | 1,157 |
| Montana | 180.7 | 6.4 | 1,157 |
| Ohio | 180.3 | 6.4 | 1,156 |
| New Hampshire | 179.7 | 6.4 | 1,152 |
| North Dakota | 178.9 | 6.4 | 1,150 |
| South Dakota | 175.5 | 6.5 | 1,150 |
| Colorado | 176.9 | 6.5 | 1,149 |
| Illinois | 181.2 | 6.3 | 1,140 |
| Oklahoma | 177.4 | 6.4 | 1,139 |
| Utah | 179.2 | 6.4 | 1,138 |
| Connecticut | 181.6 | 6.3 | 1,137 |
| Washington | 180.2 | 6.3 | 1,136 |
| Vermont | 175.9 | 6.4 | 1,129 |
| Oregon | 177.3 | 6.4 | 1,129 |
| Minnesota | 174.7 | 6.5 | 1,128 |
| Michigan | 181.8 | 6.2 | 1,128 |
| Arizona | 176.3 | 6.4 | 1,126 |
| Wyoming | 175.5 | 6.4 | 1,124 |
| New Jersey | 181.1 | 6.2 | 1,117 |
| Nevada | 180.4 | 6.2 | 1,110 |
| Rhode Island | 180.0 | 6.2 | 1,109 |
| California | 180.8 | 6.1 | 1,109 |
| Massachusetts | 180.1 | 6.1 | 1,106 |
| Idaho | 180.0 | 6.1 | 1,105 |
| District of Columbia | 182.1 | 6.1 | 1,104 |
| Maine | 176.1 | 6.3 | 1,101 |
| Hawaii | 177.6 | 6.2 | 1,099 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 49-4 Standard errors for estimated averges in table 49-2

| | Days in school year | Length of day (hours) | Average hours in school per year |
|---|---|---|---|
| **All schools** | **0.13** | **0.01** | **1.6** |
| Public | 0.08 | 0.01 | 2.1 |
| Elementary | 0.08 | 0.01 | 2.0 |
| Secondary | 0.19 | 0.03 | 4.8 |
| Combined | 0.61 | 0.03 | 6.8 |
| Urbanicity | | | |
| Rural/small town | 0.10 | 0.01 | 2.5 |
| Urban finge/large town | 0.19 | 0.02 | 4.3 |
| Central city | 0.15 | 0.02 | 3.3 |
| Percent of students receiving free lunch | | | |
| 0–5 | 0.31 | 0.07 | 13.1 |
| 6–20 | 0.21 | 0.06 | 11.5 |
| 21–40 | 0.39 | 0.03 | 8.0 |
| 41 and over | 0.17 | 0.02 | 3.1 |
| Private | 0.43 | 0.02 | 4.2 |
| Elementary | 0.56 | 0.02 | 5.1 |
| Secondary | 1.15 | 0.04 | 6.4 |
| Combined | 0.76 | 0.03 | 7.0 |
| Urbanicity | | | |
| Rural/small town | 1.00 | 0.04 | 7.7 |
| Urban fringe/large town | 0.41 | 0.03 | 5.3 |
| Central city | 0.59 | 0.03 | 6.8 |
| Catholic | | | |
| Parochial | 0.21 | 0.03 | 5.5 |
| Diocesan | 0.76 | 0.05 | 11.0 |
| Private order | 0.63 | 0.07 | 11.9 |
| Other Religious | | | |
| Conservative Christian | 0.75 | 0.04 | 6.6 |
| Affiliated | 0.56 | 0.03 | 7.0 |
| Unaffiliated | 2.11 | 0.06 | 14.6 |
| Nonsectarian | | | |
| Regular | 1.97 | 0.06 | 14.9 |
| Special emphasis | 1.31 | 0.09 | 17.9 |
| Special education | 2.79 | 0.11 | 27.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Table 49-5 Standard errors for estimated averages in table 49-3

| State | Average days per year | Average hours per day | Average hours per year |
|---|---|---|---|
| Mississippi | 0.5 | 0.1 | 12.0 |
| Texas | 0.1 | 0.0 | 3.9 |
| Wisconsin | 0.6 | 0.1 | 14.0 |
| Iowa | 0.0 | 0.1 | 11.0 |
| Tennessee | 0.7 | 0.0 | 10.0 |
| Alabama | 0.3 | 0.0 | 7.0 |
| South Carolina | 0.6 | 0.1 | 15.7 |
| West Virginia | 0.6 | 0.1 | 12.8 |
| Arkansas | 0.8 | 0.1 | 9.2 |
| Georgia | 0.2 | 0.1 | 9.7 |
| Florida | 0.4 | 0.2 | 28.7 |
| Delaware | 0.8 | 0.2 | 38.6 |
| Indiana | 0.2 | 0.1 | 10.2 |
| Kansas | 0.4 | 0.0 | 5.9 |
| Louisiana | 1.7 | 0.1 | 13.9 |
| Kentucky | 1.2 | 0.1 | 13.9 |
| Pennsylvania | 0.2 | 0.0 | 6.8 |
| North Carolina | 0.8 | 0.1 | 17.1 |
| New York | 0.5 | 0.1 | 13.1 |
| Nebraska | 1.9 | 0.1 | 27.5 |
| New Mexico | 1.8 | 0.1 | 13.7 |
| Virginia | 0.2 | 0.1 | 14.4 |
| Alaska | 0.3 | 0.1 | 23.8 |
| Missouri | 1.2 | 0.1 | 12.8 |
| Maryland | 0.8 | 0.1 | 14.5 |
| Montana | 0.3 | 0.1 | 8.1 |
| Ohio | 0.2 | 0.1 | 17.9 |
| New Hampshire | 0.4 | 0.1 | 19.0 |
| North Dakota | 0.3 | 0.2 | 29.1 |
| South Dakota | 0.2 | 0.1 | 10.3 |
| Colorado | 1.6 | 0.1 | 12.7 |
| Illinois | 1.0 | 0.0 | 9.6 |
| Oklahoma | 1.0 | 0.1 | 16.6 |
| Utah | 2.3 | 0.1 | 17.6 |
| Connecticut | 1.4 | 0.0 | 9.1 |
| Washington | 0.3 | 0.1 | 8.2 |
| Vermont | 0.4 | 0.1 | 10.3 |
| Oregon | 0.6 | 0.1 | 9.9 |
| Minnesota | 0.7 | 0.1 | 15.9 |
| Michigan | 0.4 | 0.1 | 20.8 |
| Arizona | 0.5 | 0.1 | 12.0 |
| Wyoming | 0.2 | 0.1 | 20.5 |
| New Jersey | 0.2 | 0.1 | 18.8 |
| Nevada | 0.3 | 0.1 | 11.3 |
| Rhode Island | 0.1 | 0.0 | 4.8 |
| California | 0.4 | 0.2 | 34.7 |
| Massachusetts | 0.1 | 0.1 | 10.9 |
| Idaho | 0.1 | 0.1 | 7.6 |
| District of Columbia | 0.2 | 0.0 | 5.0 |
| Maine | 0.3 | 0.1 | 10.1 |
| Hawaii | 0.4 | 0.0 | 6.2 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91.

## Note on private school categories

Past classification schemes for private schools produced by the National Center for Education Statistics (NCES) have usually included three categories: Catholic, other religious, and nonsectarian. These classifications have some utility, but they may mask the full range of diversity within the universe of private schools.

In 1987, NCES commissioned a report to recommend an expanded set of categories to guide analysis and reporting, as well as development of additional survey items to facilitate the assignment of schools to categories within the typology. The resulting typology begins with the earlier three-group categorization (Catholic, other religious, and nonsectarian), and further subdivides each group into three additional groups. In the Schools and Staffing Survey, each school was self-categorized according to governance, affiliation, curricular orientation, or other characteristics.

**Among Catholic schools:**

*Parochial schools* are schools governed by the local Catholic parish.

*Diocesan schools* are schools governed by the local Catholic diocese, under the authority of the local bishop.

*Private schools* are schools independently governed by the individual school, or a religious order, not under the direct authority of a local bishop or parish.

**Among other religious schools:**

*Conservative Christian schools* are schools typically affiliated with a Christian school association (e.g., Accelerated Christian Education, American Association of Christian Schools, Association of Christian Schools International, or Oral Roberts Educational Fellowship). Schools in this type of category are commonly known as evangelical or fundamentalist, and are not tied to a denomination per se, but rather governed by a single church, a foundation, or a local society.

*Affiliated* are any religious schools associated with a major denomination (e.g., Lutheran, Jewish, Seven-day Adventist, etc.).

*Unaffiliated* are those religious schools which affiliate with neither a national denomination nor with a conservative Christian school association.

**Among nonsectarian schools:**

*Regular schools* offer a conventional academic program.

*Special emphasis schools* provide a program with a special stress (e.g., arts, vocational, alternative, etc.).

*Special education schools* serve the needs of children in special education programs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Diversity Among Private Schools*, 1992.

**Table 50-1** **Percentage of high school seniors reporting being victimized in school, by type of victimization and by Standard Metropolitan Statistical Area (SMSA): 1976–91**

| Year | Something stolen from you | | | Property deliberately damaged | | | Injured you with a weapon | | |
|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA |
| 1976 | 41.5 | 36.3 | 38.1 | 26.8 | 24.8 | 26.3 | 7.9 | 5.6 | 4.5 |
| 1977 | 37.9 | 42.7 | 37.6 | 24.4 | 25.5 | 24.5 | 5.2 | 5.1 | 4.3 |
| 1978 | 41.1 | 37.6 | 35.7 | 24.6 | 25.5 | 25.5 | 4.0 | 4.3 | 5.5 |
| 1979 | 36.9 | 34.8 | 30.0 | 22.2 | 26.6 | 22.5 | 2.9 | 6.3 | 4.2 |
| 1980 | 34.5 | 34.1 | 33.8 | 22.6 | 27.5 | 23.9 | 4.4 | 4.5 | 4.4 |
| 1981 | 39.3 | 42.5 | 36.9 | 28.3 | 32.6 | 29.7 | 8.2 | 6.9 | 5.3 |
| 1982 | 39.5 | 40.6 | 34.1 | 23.6 | 25.7 | 27.3 | 4.4 | 4.2 | 5.2 |
| 1983 | 38.8 | 40.3 | 37.5 | 25.6 | 25.7 | 25.1 | 3.8 | 4.8 | 5.9 |
| 1984 | 40.2 | 39.5 | 34.5 | 24.8 | 23.7 | 24.5 | 3.4 | 4.1 | 4.4 |
| 1985 | 41.1 | 39.5 | 36.9 | 23.5 | 28.7 | 27.2 | 7.3 | 4.8 | 6.4 |
| 1986 | 42.2 | 42.3 | 35.6 | 25.1 | 27.3 | 24.4 | 5.6 | 4.8 | 6.0 |
| 1987 | 40.7 | 42.1 | 43.3 | 23.0 | 28.1 | 27.4 | 5.0 | 4.5 | 5.5 |
| 1988 | 42.8 | 43.9 | 38.7 | 29.0 | 28.6 | 24.3 | 4.8 | 5.2 | 3.8 |
| 1989 | 35.5 | 40.7 | 43.4 | 24.6 | 26.4 | 28.9 | 4.8 | 6.3 | 4.9 |
| 1990 | 39.9 | 42.0 | 42.5 | 29.2 | 30.9 | 26.5 | 6.8 | 5.3 | 5.9 |
| 1991 | 41.4 | 41.3 | 42.8 | 26.4 | 28.5 | 29.5 | 4.8 | 8.0 | 5.2 |

| Year | Threatened you with a weapon | | | Injured you without a weapon | | | Threatened you without a weapon | | |
|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA |
| 1976 | 14.6 | 12.2 | 11.7 | 14.9 | 14.4 | 11.9 | 24.3 | 19.9 | 21.0 |
| 1977 | 12.8 | 11.8 | 12.4 | 12.4 | 11.1 | 10.2 | 23.2 | 19.2 | 20.6 |
| 1978 | 9.9 | 12.0 | 12.2 | 13.6 | 10.2 | 13.9 | 18.9 | 21.6 | 18.8 |
| 1979 | 9.1 | 12.7 | 13.0 | 12.1 | 13.6 | 10.5 | 19.9 | 20.7 | 19.8 |
| 1980 | 11.5 | 12.4 | 8.8 | 12.0 | 10.7 | 11.2 | 21.9 | 18.7 | 18.4 |
| 1981 | 17.0 | 15.2 | 12.9 | 15.4 | 16.3 | 12.2 | 24.6 | 26.4 | 19.9 |
| 1982 | 12.1 | 11.6 | 12.2 | 12.0 | 13.2 | 10.9 | 21.3 | 22.3 | 19.7 |
| 1983 | 13.7 | 12.4 | 13.1 | 11.0 | 12.8 | 17.5 | 25.9 | 23.0 | 24.8 |
| 1984 | 13.2 | 11.9 | 10.8 | 13.1 | 13.0 | 11.3 | 22.7 | 22.1 | 24.2 |
| 1985 | 15.8 | 14.0 | 11.0 | 14.6 | 13.3 | 15.1 | 24.8 | 24.6 | 24.4 |
| 1986 | 13.9 | 12.8 | 13.2 | 17.7 | 12.8 | 12.4 | 24.2 | 24.7 | 25.5 |
| 1987 | 11.7 | 12.2 | 13.6 | 15.3 | 14.8 | 17.1 | 24.6 | 23.9 | 26.8 |
| 1988 | 10.7 | 13.7 | 12.1 | 13.4 | 14.4 | 12.2 | 22.7 | 24.4 | 23.6 |
| 1989 | 9.7 | 14.2 | 15.9 | 12.3 | 14.2 | 15.4 | 22.1 | 24.3 | 25.3 |
| 1990 | 15.8 | 12.4 | 12.3 | 15.9 | 13.2 | 12.4 | 25.2 | 26.3 | 22.6 |
| 1991 | 13.8 | 16.9 | 17.1 | 12.5 | 15.9 | 16.7 | 25.0 | 26.8 | 25.0 |

NOTE: On the original Monitoring the Future questionnaire. students were asked to identify one of nine categories of urbanicity in which they grew up: (1) on a farm, (2) in the country, not on a farm, (3) in a small city or town (under 50,000 people), (4) in a medium-sized city (50,000–100,000), (5) in a suburb of a medium-sized city, (6) in a large city (100,000–5,000,000), (7) in a suburb of a large city, (8) in a very large city, (9) in a suburb of a very large city. (Note that this measure does not indicate where the respondent currently resides, nor does it indicate the urbanicity of the school.) Monitoring the Future collapses these 9 categories into three categories which are reported annually in their national drug abuse report. The categories are: (1)non-SMSA, (2) other SMSA, and (3) Large SMSA.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations.

## Table 50-2 Percentage of high school seniors reporting being victimized in school, by type of victimization, and by Standard Metropolitan Statistical Area (SMSA) and race/ethnicity: 1977–91 (Three-year average)

| Year | Something stolen from you | | | | | | Property deliberately damaged | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 40.6 | 27.8 | 39.0 | 36.3 | 34.6 | 27.7 | 24.2 | 17.7 | 25.8 | 24.1 | 24.1 | 20.1 |
| 1980–82 | 38.0 | 40.5 | 39.1 | 41.3 | 35.3 | 32.0 | 25.0 | 20.8 | 28.6 | 28.8 | 26.8 | 26.1 |
| 1983–85 | 41.0 | 34.9 | 39.5 | 41.4 | 37.2 | 30.9 | 24.7 | 23.9 | 25.3 | 27.6 | 25.6 | 19.2 |
| 1986–88 | 41.5 | 46.5 | 42.8 | 42.8 | 40.0 | 30.6 | 25.9 | 22.8 | 27.8 | 27.9 | 25.7 | 22.3 |
| 1989–91 | 36.6 | 43.5 | 41.5 | 43.2 | 42.6 | 45.8 | 27.3 | 16.8 | 28.8 | 26.3 | 26.2 | 38.2 |

| Year | Injured you with a weapon | | | | | | Threatened you with a weapon | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 3.3 | 6.0 | 4.5 | 8.6 | 3.7 | 8.1 | 10.0 | 14.9 | 11.4 | 17.5 | 11.5 | 16.8 |
| 1980–82 | 4.8 | 8.9 | 4.6 | 8.3 | 3.6 | 10.9 | 12.2 | 18.4 | 12.0 | 19.6 | 10.0 | 19.4 |
| 1983–85 | 4.3 | 5.5 | 3.8 | 8.1 | 4.9 | 7.2 | 13.3 | 16.3 | 11.2 | 21.6 | 10.6 | 15.3 |
| 1986–88 | 4.1 | 4.6 | 4.5 | 8.2 | 4.5 | 7.4 | 10.2 | 18.9 | 12.4 | 17.1 | 11.8 | 21.4 |
| 1989–91 | 4.5 | 6.6 | 5.5 | 12.2 | 4.3 | 11.1 | 11.7 | 16.0 | 13.7 | 21.2 | 13.5 | 22.4 |

| Year | Injured you without a weapon | | | | | | Threatened you without a weapon | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 12.6 | 9.5 | 11.2 | 12.3 | 10.5 | 12.6 | 21.3 | 17.8 | 20.4 | 20.4 | 19.4 | 20.7 |
| 1980–82 | 12.7 | 17.2 | 12.9 | 14.5 | 10.5 | 13.9 | 22.5 | 26.2 | 22.9 | 19.8 | 18.8 | 19.5 |
| 1983–85 | 12.7 | 13.4 | 12.7 | 15.3 | 13.6 | 16.7 | 24.2 | 24.1 | 23.1 | 26.1 | 24.3 | 23.5 |
| 1986–88 | 16.0 | 14.1 | 14.2 | 16.1 | 13.9 | 14.8 | 24.8 | 24.3 | 25.2 | 22.8 | 25.4 | 26.1 |
| 1989–91 | 13.3 | 12.0 | 15.1 | 15.0 | 13.3 | 21.7 | 24.5 | 21.8 | 26.8 | 25.3 | 24.5 | 21.7 |

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations.

## Table 50-3 Standard errors for estimated percentages in text table for *Indictor 50*

| Year | Something stolen from you | | Property deliberately damaged | | Injured you with a weapon | | Threatened you with a weapon | | Injured you without a weapon | | Threatened you without a weapon | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1976 | 1.5 | 3.9 | 1.3 | 3.7 | 0.7 | 2.2 | 1.0 | 3.0 | 1.0 | 2.8 | 1.3 | 3.5 |
| 1977 | 1.5 | 3.8 | 1.3 | 3.3 | 0.6 | 2.2 | 1.0 | 3.2 | 0.9 | 2.6 | 1.2 | 3.5 |
| 1978 | 1.5 | 3.8 | 1.3 | 3.3 | 0.6 | 2.1 | 1.0 | 2.7 | 1.0 | 2.8 | 1.2 | 3.1 |
| 1979 | 1.5 | 3.6 | 1.3 | 3.3 | 0.6 | 2.2 | 1.0 | 3.0 | 1.0 | 2.4 | 1.2 | 3.1 |
| 1980 | 1.5 | 3.8 | 1.3 | 3.3 | 0.6 | 2.4 | 0.9 | 3.1 | 0.9 | 2.9 | 1.2 | 3.2 |
| 1981 | 1.5 | 3.9 | 1.4 | 3.7 | 0.7 | 2.7 | 1.0 | 3.4 | 1.1 | 3.2 | 1.3 | 3.5 |
| 1982 | 1.5 | 4.0 | 1.3 | 3.5 | 0.6 | 1.7 | 1.0 | 2.9 | 1.0 | 2.6 | 1.3 | 3.2 |
| 1983 | 1.5 | 3.9 | 1.3 | 3.4 | 0.6 | 1.9 | 1.0 | 2.9 | 1.0 | 2.7 | 1.3 | 3.5 |
| 1984 | 1.5 | 3.9 | 1.3 | 3.3 | 0.5 | 1.9 | 1.0 | 3.0 | 1.0 | 2.7 | 1.3 | 3.5 |
| 1985 | 1.5 | 3.8 | 1.4 | 3.6 | 0.7 | 2.3 | 1.0 | 3.4 | 1.1 | 3.1 | 1.3 | 3.5 |
| 1986 | 1.5 | 3.9 | 1.3 | 3.5 | 0.7 | 2.0 | 1.0 | 2.9 | 1.1 | 2.7 | 1.3 | 3.4 |
| 1987 | 1.5 | 3.9 | 1.4 | 3.5 | 0.6 | 1.9 | 1.0 | 3.1 | 1.1 | 2.9 | 1.3 | 3.2 |
| 1988 | 1.5 | 4.0 | 1.4 | 3.5 | 0.6 | 2.3 | 1.0 | 3.3 | 1.1 | 3.0 | 1.3 | 3.6 |
| 1989 | 1.5 | 4.0 | 1.4 | 3.7 | 0.7 | 2.6 | 1.0 | 3.4 | 1.1 | 3.1 | 1.3 | 3.3 |
| 1990 | 1.5 | 4.0 | 1.4 | 3.5 | 0.6 | 2.4 | 1.0 | 3.0 | 1.1 | 2.4 | 1.4 | 3.3 |
| 1991 | 1.5 | 4.0 | 1.4 | 3.5 | 0.7 | 2.4 | 1.1 | 3.2 | 1.1 | 3.0 | 1.4 | 3.6 |

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations

## Table 50-4 Standard errors for estimated percentages in table 50-1

| Year | Something stolen from you | | | Property deliberately damaged | | | Injured you with a weapon | | |
|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA |
| 1976 | 2.5 | 1.8 | 1.8 | 2.2 | 1.6 | 1.6 | 1.4 | 0.8 | 0.8 |
| 1977 | 2.5 | 1.8 | 1.8 | 2.2 | 1.6 | 1.6 | 1.1 | 0.8 | 0.7 |
| 1978 | 2.5 | 1.8 | 1.8 | 2.2 | 1.6 | 1.6 | 1.0 | 0.7 | 0.8 |
| 1979 | 2.4 | 1.7 | 1.7 | 2.1 | 1.6 | 1.5 | 0.9 | 0.9 | 0.7 |
| 1980 | 2.4 | 1.7 | 1.7 | 2.1 | 1.6 | 1.6 | 1.0 | 0.8 | 0.8 |
| 1981 | 2.5 | 1.8 | 1.8 | 2.3 | 1.7 | 1.7 | 1.4 | 0.9 | 0.8 |
| 1982 | 2.5 | 1.8 | 1.7 | 2.2 | 1.6 | 1.6 | 1.0 | 0.7 | 0.8 |
| 1983 | 2.5 | 1.8 | 1.8 | 2.2 | 1.6 | 1.6 | 1.0 | 0.8 | 0.9 |
| 1984 | 2.5 | 1.8 | 1.7 | 2.2 | 1.6 | 1.6 | 0.9 | 0.7 | 0.8 |
| 1985 | 2.5 | 1.8 | 1.8 | 2.2 | 1.7 | 1.6 | 1.3 | 0.8 | 0.9 |
| 1986 | 2.5 | 1.8 | 1.8 | 2.2 | 1.6 | 1.6 | 1.2 | 0.8 | 0.9 |
| 1987 | 2.5 | 1.8 | 1.8 | 2.1 | 1.6 | 1.6 | 1.1 | 0.8 | 0.8 |
| 1988 | 2.5 | 1.8 | 1.8 | 2.3 | 1.7 | 1.6 | 1.1 | 0.8 | 0.7 |
| 1989 | 2.4 | 1.8 | 1.8 | 2.2 | 1.6 | 1.7 | 1.1 | 0.9 | 0.8 |
| 1990 | 2.5 | 1.8 | 1.8 | 2.3 | 1.7 | 1.6 | 1.3 | 0.8 | 0.9 |
| 1991 | 2.5 | 1.8 | 1.8 | 2.2 | 1.7 | 1.7 | 1.1 | 1.0 | 0.8 |

| Year | Threatened you with a weapon | | | Injured you without a weapon | | | Threatened you without a weapon | | |
|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA | Large SMSA | Other SMSA | Non SMSA |
| 1976 | 1.8 | 1.2 | 1.2 | 1.8 | 1.3 | 1.2 | 2.2 | 1.5 | 1.5 |
| 1977 | 1.7 | 1.2 | 1.2 | 1.7 | 1.2 | 1.1 | 2.1 | 1.4 | 1.5 |
| 1978 | 1.5 | 1.2 | 1.2 | 1.7 | 1.1 | 1.3 | 2.0 | 1.5 | 1.4 |
| 1979 | 1.5 | 1.2 | 1.2 | 1.7 | 1.3 | 1.1 | 2.0 | 1.5 | 1.5 |
| 1980 | 1.6 | 1.2 | 1.0 | 1.6 | 1.1 | 1.2 | 2.1 | 1.4 | 1.4 |
| 1981 | 1.9 | 1.3 | 1.2 | 1.8 | 1.4 | 1.2 | 2.2 | 1.6 | 1.5 |
| 1982 | 1.7 | 1.2 | 1.2 | 1.6 | 1.2 | 1.1 | 2.1 | 1.5 | 1.5 |
| 1983 | 1.7 | 1.2 | 1.2 | 1.6 | 1.2 | 1.4 | 2.2 | 1.5 | 1.6 |
| 1984 | 1.7 | 1.2 | 1.1 | 1.7 | 1.2 | 1.2 | 2.1 | 1.5 | 1.6 |
| 1985 | 1.9 | 1.3 | 1.1 | 1.8 | 1.2 | 1.3 | 2.2 | 1.6 | 1.6 |
| 1986 | 1.8 | 1.2 | 1.2 | 1.9 | 1.2 | 1.2 | 2.2 | 1.6 | 1.6 |
| 1987 | 1.6 | 1.2 | 1.3 | 1.8 | 1.3 | 1.4 | 2.2 | 1.6 | 1.6 |
| 1988 | 1.6 | 1.3 | 1.2 | 1.7 | 1.3 | 1.2 | 2.1 | 1.6 | 1.6 |
| 1989 | 1.5 | 1.3 | 1.3 | 1.7 | 1.3 | 1.3 | 2.1 | 1.6 | 1.6 |
| 1990 | 1.9 | 1.2 | 1.2 | 1.9 | 1.2 | 1.2 | 2.2 | 1.6 | 1.5 |
| 1991 | 1.8 | 1.4 | 1.4 | 1.7 | 1.3 | 1.4 | 2.2 | 1.6 | 1.6 |

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations.

## Table 50-5 Standard errors for estimated percentages in table 50-2

| Year | Something stolen from you | | | | | | Property deliberately damaged | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 1.4 | 3.6 | 1.0 | 3.2 | 1.2 | 3.5 | 1.3 | 3.0 | 0.9 | 2.9 | 1.0 | 3.2 |
| 1980–82 | 1.4 | 3.9 | 1.0 | 3.3 | 1.2 | 3.7 | 1.3 | 3.2 | 0.9 | 3.0 | 1.1 | 3.5 |
| 1983–85 | 1.4 | 3.8 | 1.0 | 3.3 | 1.2 | 3.7 | 1.3 | 3.4 | 0.9 | 3.0 | 1.1 | 3.1 |
| 1986–88 | 1.5 | 4.0 | 1.0 | 3.3 | 1.2 | 3.7 | 1.3 | 3.3 | 0.9 | 3.0 | 1.1 | 3.3 |
| 1989–91 | 1.4 | 3.9 | 1.0 | 3.3 | 1.2 | 4.0 | 1.3 | 3.0 | 0.9 | 2.9 | 1.1 | 3.9 |

| Year | Injured you with a weapon | | | | | | Threatened you with a weapon | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 0.5 | 1.9 | 0.4 | 1.9 | 0.5 | 2.2 | 0.9 | 2.8 | 0.7 | 3.2 | 0.6 | 3.0 |
| 1980–82 | 0.6 | 2.3 | 0.4 | 1.8 | 0.5 | 2.5 | 1.0 | 3.1 | 0.7 | 3.3 | 0.7 | 3.1 |
| 1983–85 | 0.6 | 1.8 | 0.4 | 1.8 | 0.5 | 2.0 | 1.0 | 2.9 | 0.7 | 3.3 | 0.7 | 2.9 |
| 1986–88 | 0.6 | 1.7 | 0.4 | 1.8 | 0.5 | 2.1 | 0.9 | 3.1 | 0.7 | 3.3 | 0.8 | 3.3 |
| 1989–91 | 0.6 | 2.0 | 0.5 | 2.2 | 0.5 | 2.5 | 0.9 | 2.9 | 0.7 | 3.3 | 0.8 | 3.3 |

| Year | Injured you without a weapon | | | | | | Threatened you without a weapon | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large SMSA | | Other SMSA | | Non SMSA | | Large SMSA | | Other SMSA | | Non SMSA | |
| | White | Black | White | Black | White | Black | White | Black | White | Black | White | Black |
| 1977–79 | 1.0 | 2.3 | 0.7 | 2.9 | 0.7 | 2.6 | 1.2 | 3.0 | 0.8 | [illegible] | 1.0 | 3.2 |
| 1980–82 | 1.0 | 3.0 | 0.7 | 3.0 | 0.7 | 2.7 | 1.2 | 3.5 | 0.9 | 1.8 | 0.9 | 3.1 |
| 1983–85 | 1.0 | 2.7 | 0.7 | 3.0 | 0.8 | 3.0 | 1.3 | 3.4 | 0.9 | 1.8 | 1.0 | 3.4 |
| 1986–88 | 1.1 | 2.8 | 0.7 | 3.0 | 0.8 | 2.8 | 1.3 | 3.4 | 0.9 | 1.8 | 1.1 | 3.5 |
| 1989–91 | 1.0 | 2.6 | 0.7 | 2.9 | 0.8 | 3.3 | 1.3 | 3.3 | 0.9 | 2.2 | 1.0 | 3.3 |

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, *Monitoring the Future*, unpublished tabulations.

## Table 51-1 Average class size by rank of faculty instructing students, by type of institution and course division: 1988

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **51.3** | **52.7** | **38.3** | **27.5** | **39.4** | **26.9** |
| Research | 87.4 | 114.4 | 56.2 | 30.6 | 66.8 | 57.9 |
| Doctoral | 74.8 | 67.1 | 45.9 | 32.6 | 37.5 | 24.0 |
| Comprehensive | 37.4 | 34.6 | 32.4 | 29.0 | 32.0 | 27.2 |
| Liberal arts | 27.4 | 27.3 | 31.2 | 18.2 | 20.2 | 21.3 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **26.2** | **27.6** | **25.5** | **21.8** | **27.2** | **22.1** |
| Research | 34.3 | 41.1 | 34.6 | 28.5 | 31.3 | 43.0 |
| Doctoral | 26.2 | 27.0 | 28.9 | 22.8 | 23.0 | 22.0 |
| Comprehensive | 22.6 | 22.9 | 23.8 | 21.9 | 27.5 | 19.8 |
| Liberal arts | 18.2 | 16.5 | 16.9 | 16.4 | 9.5 | 14.9 |
| | | | **Graduate courses** | | | |
| **Total** | **18.2** | **20.1** | **19.1** | **19.9** | **19.0** | **12.6** |
| Research | 17.5 | 21.1 | 20.3 | 20.0 | 16.0 | 14.6 |
| Doctoral | 18.6 | 18.9 | 17.6 | 20.0 | 8.6 | 7.1 |
| Comprehensive | 19.4 | 19.1 | 17.9 | 19.8 | 23.9 | 8.5 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Table 51-2 Percentage of classroom hours college and university students spent with faculty of different ranks, by control of institution and course division: 1988

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **30.4** | **26.3** | **20.5** | **12.8** | **8.1** | **1.9** |
| Public | 32.8 | 24.4 | 17.5 | 14.4 | 9.7 | 1.1 |
| Private | 23.2 | 31.7 | 23.7 | 11.2 | 5.0 | 5.3 |
| Liberal arts | 27.3 | 20.6 | 29.0 | 12.8 | 4.5 | 5.8 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **31.1** | **25.5** | **25.7** | **8.8** | **7.4** | **1.5** |
| Public | 32.1 | 26.4 | 24.2 | 7.4 | 9.0 | 1.0 |
| Private | 30.8 | 25.6 | 24.7 | 11.7 | 5.3 | 1.9 |
| Liberal arts | 24.6 | 19.7 | 38.8 | 12.6 | 0.7 | 3.7 |
| | | | **Graduate courses** | | | |
| **Total** | **41.5** | **28.7** | **19.4** | **4.3** | **3.8** | **2.3** |
| Public | 47.7 | 25.9 | 19.9 | 2.5 | 3.9 | 0.1 |
| Private | 33.0 | 32.7 | 18.7 | 7.0 | 3.7 | 5.3 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Table 51-3 Average class size by rank of faculty instructing students, by control of institution and course division: 1988

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **51.3** | **52.7** | **38.3** | **27.5** | **39.4** | **26.9** |
| Public | 55.5 | 56.0 | 43.8 | 33.3 | 49.2 | 39.1 |
| Private | 57.4 | 61.2 | 33.7 | 20.1 | 24.8 | 22.8 |
| Liberal arts | 27.4 | 27.3 | 31.2 | 18.2 | 20.2 | 21.3 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **26.2** | **27.6** | **25.5** | **21.8** | **27.2** | **22.1** |
| Public | 28.0 | 29.9 | 29.9 | 25.3 | 30.8 | 36.9 |
| Private | 24.8 | 26.5 | 22.0 | 20.2 | 19.0 | 13.6 |
| Liberal arts | 18.2 | 16.5 | 16.9 | 16.4 | 9.5 | 14.9 |
| | | | **Graduate courses** | | | |
| **Total** | **18.1** | **20.1** | **19.1** | **19.9** | **19.0** | **12.6** |
| Public | 16.7 | 18.0 | 17.6 | 21.2 | 22.6 | 7.7 |
| Private | 21.4 | 24.3 | 21.3 | 19.2 | 15.3 | 13.9 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Table 51-4 Standard errors for estimated percentages in text table for *Indicator 51*

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **1.5** | **2.7** | **1.9** | **1.7** | **1.1** | **0.5** |
| Research | 3.8 | 5.9 | 3.9 | 1.6 | 3.1 | 0.3 |
| Doctoral | 6.7 | 7.0 | 3.4 | 4.0 | 1.8 | 0.8 |
| Comprehensive | 1.6 | 2.4 | 2.0 | 2.5 | 1.7 | 0.7 |
| Liberal arts | 3.9 | 2.9 | 6.4 | 2.4 | 2.0 | 3.5 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **1.9** | **1.8** | **1.5** | **1.1** | **1.8** | **0.4** |
| Research | 3.3 | 3.6 | 2.2 | 2.6 | 2.0 | 0.8 |
| Doctoral | 5.4 | 4.7 | 3.6 | 2.3 | 4.1 | 0.4 |
| Comprehensive | 2.2 | 1.7 | 2.5 | 1.1 | 1.9 | 0.5 |
| Liberal arts | 4.3 | 5.3 | 7.4 | 3.6 | 0.4 | 2.0 |
| | | | **Graduate courses** | | | |
| **Total** | **3.1** | **3.5** | **2.6** | **1.0** | **0.8** | **1.9** |
| Research | 4.2 | 3.6 | 3.5 | 0.7 | 0.9 | 3.5 |
| Doctoral | 9.3 | 11.6 | 7.1 | 2.0 | 0.7 | 0.3 |
| Comprehensive | 6.1 | 6.0 | 3.3 | 2.3 | 2.2 | 0.2 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Table 51-5 Standard errors for estimated numbers in table 51-1

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **4.2** | **5.3** | **2.5** | **1.3** | **5.4** | **3.7** |
| Research | 13.7 | 26.9 | 9.8 | 6.0 | 24.5 | 23.3 |
| Doctoral | 23.3 | 8.8 | 5.1 | 4.4 | 13.9 | 2.5 |
| Comprehensive | 1.3 | 1.7 | 1.6 | 1.6 | 3.9 | 5.1 |
| Liberal arts | 1.5 | 2.3 | 8.3 | 1.3 | 3.3 | 5.4 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **0.9** | **1.5** | **0.9** | **1.2** | **2.3** | **7.1** |
| Research | 2.3 | 4.6 | 2.6 | 5.2 | 5.3 | 72.9 |
| Doctoral | 1.9 | 1.6 | 2.6 | 2.7 | 6.0 | 7.0 |
| Comprehensive | 0.6 | 0.9 | 1.1 | 1.3 | 2.6 | 4.4 |
| Liberal arts | 3.3 | 1.1 | 1.6 | 3.0 | 3.2 | 2.0 |
| | | | **Graduate courses** | | | |
| **Total** | **1.0** | **1.4** | **0.8** | **2.0** | **3.0** | **3.7** |
| Research | 1.2 | 1.9 | 2.0 | 4.1 | 1.9 | 5.4 |
| Doctoral | 2.0 | 3.8 | 2.3 | 7.6 | 0.8 | 2.5 |
| Comprehensive | 2.6 | 1.9 | 1.9 | 2.6 | 4.6 | 1.7 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Table 51-6 Standard errors for estimated percentages in table 51-2

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **1.5** | **2.7** | **1.9** | **1.7** | **1.1** | **0.5** |
| Public | 2.0 | 2.7 | 2.0 | 2.0 | 1.7 | 0.5 |
| Private | 4.5 | 7.7 | 3.1 | 2.9 | 1.1 | 1.4 |
| Liberal arts | 3.9 | 2.9 | 6.4 | 2.4 | 2.0 | 3.5 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **1.9** | **1.8** | **1.5** | **1.1** | **1.8** | **0.4** |
| Public | 1.9 | 1.9 | 1.8 | 1.2 | 1.6 | 0.4 |
| Private | 4.2 | 4.0 | 2.7 | 2.5 | 3.1 | 0.8 |
| Liberal arts | 4.3 | 5.3 | 7.4 | 3.6 | 0.4 | 2.0 |
| | | | **Graduate courses** | | | |
| **Total** | **3.1** | **3.5** | **2.6** | **1.0** | **0.8** | **1.9** |
| Public | 3.3 | 3.9 | 2.9 | 0.8 | 1.4 | 0.1 |
| Private | 6.3 | 5.8 | 3.1 | 1.8 | 1.1 | 4.4 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

### Table 51-7 Standard errors for estimated numbers in table 51-3

| Type of institution | Professor | Associate professor | Assistant professor | Instructor | Lecturer | Other |
|---|---|---|---|---|---|---|
| | | | **Undergraduate, lower division courses** | | | |
| **Total** | **4.2** | **5.3** | **2.5** | **1.3** | **5.4** | **3.7** |
| Public | 4.9 | 4.3 | 3.0 | 2.2 | 7.6 | 7.5 |
| Private | 14.0 | 18.9 | 3.4 | 1.7 | 3.2 | 1.7 |
| Liberal arts | 1.5 | 2.3 | 8.3 | 1.3 | 3.3 | 5.4 |
| | | | **Undergraduate, upper division courses** | | | |
| **Total** | **0.9** | **1.5** | **0.9** | **1.2** | **2.3** | **7.1** |
| Public | 1.0 | 2.3 | 1.6 | 1.5 | 2.9 | 16.3 |
| Private | 1.9 | 2.5 | 1.5 | 2.5 | 1.2 | 4.9 |
| Liberal arts | 3.3 | 1.1 | 1.6 | 3.0 | 3.2 | 2.0 |
| | | | **Graduate courses** | | | |
| **Total** | **1.0** | **1.4** | **0.8** | **2.0** | **3.0** | **3.7** |
| Public | 1.0 | 1.3 | 0.9 | 1.9 | 4.5 | 1.9 |
| Private | 1.5 | 3.6 | 1.7 | 2.7 | 2.7 | 4.6 |
| Liberal arts | (*) | (*) | (*) | (*) | (*) | (*) |

*Too few sample observations for a reliable estimate.

Note: Both full and part-time faculty are included in the analysis. Teaching assistants and medical faculty are not included in the estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Survey of Postsecondary Faculty, 1988.

## Note on student contact with faculty at institutions of higher education

The 1988 National Survey of Postsecondary Faculty was a survey of faculty who had at least some instructional duties (such as teaching one or more courses), in for-credit higher education courses during the 1987 fall term.

For the purposes of this indicator, institutions of higher education were divided into four types and courses were separated into three divisions.

**Types of institutions:**

*Research university:* Institution which is among the 100 leading universities receiving Federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

*Doctoral university:* Institution that offers a full range of baccalaureate programs and Ph.D. degrees in at least three disciplines, but tends to be less focused on research and receives fewer federal research dollars than the research universities.

*Comprehensive institution:* Institution that offers liberal arts and professional programs. The master's degree is the highest degree offered.

*Liberal arts institution:* Smaller and generally more selective institution than comprehensive colleges and universities. Primarily offers bachelor's degrees, although some offer master's degrees.

**Course divisions:**

*Undergraduate, lower division courses:* Courses designed for students in the first or second year of a 4-year bachelor's degree program.

*Undergraduate, upper division courses:* Courses designed for students in the third or fourth year of a 4-year bachelor's degree program.

*Graduate courses:* Courses designed for students in a post-baccalaureate degree program, including a master's or doctor's.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Profiles of Faculty in Higher Education Institutions, 1988.*

## Table 52-1 National index of elementary and secondary education public revenues per student in relation to per capita personal income: Selected school years ending 1930–1992

| School year ending | National index | Public education revenues[1] (billions) | Public elementary/ secondary enrollment (millions) | Total public education revenues per student[1] | Total personal income[2] (billions) | Total population[3] (millions) | Per capita personal income[2] |
|---|---|---|---|---|---|---|---|
| 1930 | 10.6 | $17.1 | 28.3 | $604 | $693 | 121.9 | $5,689 |
| 1940 | 14.6 | 22.7 | 28.0 | 809 | 727 | 131.0 | 5,551 |
| 1950 | 13.9 | 32.2 | 28.5 | 1,130 | 1,216 | 149.2 | 8,153 |
| 1960 | 16.2 | 70.4 | 40.9 | 1,723 | 1,889 | 177.8 | 10,624 |
| 1966 | 18.2 | 111.5 | 48.5 | 2,300 | 2,462 | 194.3 | 12,671 |
| 1968 | 19.3 | 131.6 | 49.9 | 2,638 | 2,719 | 198.7 | 13,684 |
| 1970 | 20.0 | 149.6 | 51.1 | 2,926 | 2,959 | 202.7 | 14,600 |
| 1971 | 20.9 | 157.2 | 51.3 | 3,066 | 3,003 | 205.1 | 14,645 |
| 1972 | 22.3 | 170.5 | 51.3 | 3,325 | 3,096 | 207.7 | 14,908 |
| 1973 | 21.5 | 170.8 | 50.7 | 3,366 | 3,290 | 209.9 | 15,673 |
| 1974 | 21.2 | 175.2 | 50.4 | 3,475 | 3,472 | 211.9 | 16,383 |
| 1975 | 21.7 | 174.6 | 50.1 | 3,488 | 3,431 | 213.9 | 16,042 |
| 1976 | 22.9 | 180.1 | 49.8 | 3,618 | 3,408 | 216.0 | 15,780 |
| 1977 | 22.2 | 180.1 | 49.5 | 3,639 | 3,566 | 218.0 | 16,354 |
| 1978 | 22.2 | 182.4 | 48.7 | 3,745 | 3,707 | 220.2 | 16,831 |
| 1979 | 21.7 | 180.2 | 47.6 | 3,783 | 3,888 | 222.6 | 17,469 |
| 1980 | 21.5 | 175.1 | 46.6 | 3,754 | 3,930 | 225.1 | 17,464 |
| 1981 | 21.9 | 171.6 | 46.2 | 3,710 | 3,857 | 227.7 | 16,936 |
| 1982 | 21.2 | 164.3 | 45.5 | 3,609 | 3,911 | 230.0 | 17,007 |
| 1983 | 22.1 | 168.0 | 45.2 | 3,719 | 3,912 | 232.2 | 16,850 |
| 1984 | 22.5 | 173.8 | 45.0 | 3,864 | 4,032 | 234.3 | 17,209 |
| 1985 | 22.5 | 182.1 | 44.9 | 4,055 | 4,260 | 236.3 | 18,026 |
| 1986 | 23.1 | 192.3 | 45.0 | 4,275 | 4,408 | 238.5 | 18,486 |
| 1987 | 23.2 | 200.3 | 45.2 | 4,432 | 4,596 | 240.6 | 19,100 |
| 1988 | 23.3 | 205.4 | 45.5 | 4,515 | 4,695 | 242.8 | 19,335 |
| 1989 | 24.7 | 221.4 | 45.4 | 4,874 | 4,836 | 245.0 | 19,735 |
| 1990 | 25.0 | 229.7[4] | 45.9[4] | 5,005 | 4,957 | 247.3 | 20,043 |
| 1991 | 25.1 | 233.4[4] | 46.5[4] | 5,026 | 5,008 | 249.9 | 20,040 |
| 1992 | 25.5 | 236.4[5] | 47.2[5] | 5,010 | 4,974 | 252.7 | 19,683 |

[1] In constant 1992 dollars, using the CPI adjusted to a school year basis.

[2] For the calendar year in which the school year began, in constant 1992 dollars, based on the CPI.

[3] As of July 1, the year in which the school year began.

[4] Preliminary.

[5] Estimated.

NOTE: Public education revenues at the elementary and secondary level are revenues at public schools. Enrollment is in all institutions, public and private. Data revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992, tables 3 and 38 (based on Common Core of Data) and *Early Estimates: Public and Private Elementary and Secondary Educaton Statistics: School year 1992-93* table 9 (based on Common Core of Data and Private School Survey); Executive Office of the President, *Economic Report of the President*, January 1993, tables B-24 and B-29.

## Table 52-2 National index of higher education public revenues per student in relation to per capita personal income: Selected school years ending 1930–90

| School year ending | National index | Public higher education revenues[1] (billions) | Total higher education enrollment (millions) | Public higher education revenues per student[1] | Total personal income[2] (billions) | Total population[3] (millions) | Per capita personal income[2] |
|---|---|---|---|---|---|---|---|
| 1930 | 22.5 | $1.4 | 1.1 | $1,281 | $693 | 122 | $5,689 |
| 1940 | 26.1 | 2.2 | 1.5 | 1,448 | 727 | 131 | 5,551 |
| 1950 | 31.9 | 6.4 | 2.4 | 2,597 | 1,216 | 149 | 8,153 |
| 1960 | 32.0 | 12.4 | 3.6 | 3,401 | 1,889 | 178 | 10,624 |
| 1966 | 34.3 | 25.8 | 5.9 | 4,352 | 2,462 | 194 | 12,671 |
| 1968 | 32.8 | 31.0 | 6.9 | 4,491 | 2,719 | 199 | 13,684 |
| 1970 | 31.8 | 37.1 | 8.0 | 4,639 | 2,959 | 203 | 14,600 |
| 1971 | 31.0 | 38.9 | 8.6 | 4,535 | 3,003 | 205 | 14,645 |
| 1972 | 30.6 | 40.8 | 8.9 | 4,558 | 3,096 | 208 | 14,908 |
| 1973 | 30.3 | 43.8 | 9.2 | 4,754 | 3,290 | 210 | 15,673 |
| 1974 | 29.4 | 46.2 | 9.6 | 4,812 | 3,472 | 212 | 16,383 |
| 1975 | 30.0 | 49.1 | 10.2 | 4,807 | 3,431 | 214 | 16,042 |
| 1976 | 28.5 | 50.3 | 11.2 | 4,497 | 3,408 | 216 | 15,780 |
| 1977 | 28.3 | 50.9 | 11.0 | 4,621 | 3,566 | 218 | 16,354 |
| 1978 | 27.5 | 52.3 | 11.3 | 4,636 | 3,707 | 220 | 16,831 |
| 1979 | 27.1 | 53.3 | 11.3 | 4,733 | 3,888 | 223 | 17,469 |
| 1980 | 26.5 | 53.6 | 11.6 | 4,635 | 3,930 | 225 | 17,464 |
| 1981 | 25.2 | 51.7 | 12.1 | 4,275 | 3,857 | 228 | 16,936 |
| 1982 | 23.5 | 49.5 | 12.4 | 4,004 | 3,911 | 230 | 17,007 |
| 1983 | 23.1 | 48.4 | 12.4 | 3,894 | 3,912 | 232 | 16,850 |
| 1984 | 23.4 | 50.3 | 12.5 | 4,032 | 4,032 | 234 | 17,209 |
| 1985 | 24.2 | 53.5 | 12.2 | 4,367 | 4,260 | 236 | 18,026 |
| 1986 | 24.7 | 56.0 | 12.2 | 4,571 | 4,408 | 238 | 18,486 |
| 1987 | 24.3 | 58.0 | 12.5 | 4,641 | 4,596 | 241 | 19,100 |
| 1988 | 24.2 | 59.8 | 12.8 | 4,681 | 4,695 | 243 | 19,335 |
| 1989 | 24.1 | 62.0 | 13.1 | 4,747 | 4,836 | 245 | 19,735 |
| 1990[4] | 23.4 | 63.4 | 13.5 | 4,682 | 4,957 | 247 | 20,043 |

[1] In constant 1992 dollars, using the CPI adjusted to a school year basis.

[2] For the calendar year in which the school year began, in constant 1992 dollars, based on the CPI.

[3] As of July 1, the year in which the school year began.

[4] Preliminary data.

NOTE: Public higher education revenues are the portion of educational and general revenue from federal, state, and local sources at both public and private institutions. Pell Grants and other direct student aid is excluded from this time series, understating public higher education revenues between 2 and 4 percent. Enrollment is in all institutions, public and private.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *120 Years of American Education: A Statistical Portrait*, 1993, tables 24 and 33 (based on Biennial Survey of Education in the United States, and IPEDS/HEGIS Financial Statistics and Fall Enrollments Surveys). Executive Office of the President, *Economic Report of the President*, January 1993, tables B-24 and B-29.

## Table 52-3 State indices of public elementary/secondary education revenues per student in relation to per capita personal income: School year 1991–92

| State | Index | State and local education revenues (thousands)* 1991–92 | Public elementary/ secondary enrollment (thoudsands) 1991–92 | Education revenues per student 1991–92* | Total personal income (millions) 1991* | Total population (thousands) 1991 | Per capita personal income 1991* |
|---|---|---|---|---|---|---|---|
| **U.S. Total** | **25.5** | **$236,431,610** | **47,197** | **$5,010** | **$4,973,645** | **252,688** | **$19,683** |
| Alabama | 21.2 | 2,691,422 | 793 | 3,394 | 65,572 | 4,091 | 16,028 |
| Alaska | 38.2 | 1,078,389 | 125 | 8,639 | 12,886 | 570 | 22,606 |
| Arizona | 26.3 | 3,118,433 | 701 | 4,446 | 63,350 | 3,748 | 16,902 |
| Arkansas | 20.4 | 1,445,904 | 467 | 3,095 | 36,046 | 2,373 | 15,190 |
| California | 21.9 | 26,939,645 | 5,708 | 4,719 | 655,670 | 30,380 | 21,582 |
| Colorado | 24.2 | 3,082,292 | 638 | 4,834 | 67,619 | 3,378 | 20,017 |
| Connecticut | 26.0 | 3,837,438 | 554 | 6,931 | 87,740 | 3,289 | 26,677 |
| Delaware | 24.0 | 624,059 | 124 | 5,020 | 14,253 | 680 | 20,960 |
| District of Columbia | 21.6 | 527,496 | 97 | 5,461 | 15,062 | 595 | 25,315 |
| Florida | 26.1 | 11,049,447 | 2,172 | 5,087 | 258,216 | 13,267 | 19,463 |
| Georgia | 25.8 | 5,915,019 | 1,280 | 4,622 | 118,462 | 6,623 | 17,886 |
| Hawaii | 21.6 | 999,307 | 211 | 4,727 | 24,905 | 1,137 | 21,904 |
| Idaho | 22.0 | 825,150 | 237 | 3,489 | 16,488 | 1,040 | 15,854 |
| Illinois | 21.8 | 10,202,878 | 2,181 | 4,678 | 247,609 | 11,541 | 21,455 |
| Indiana | 30.8 | 5,816,054 | 1,064 | 5,468 | 99,486 | 5,610 | 17,734 |
| Iowa | 23.7 | 2,321,254 | 543 | 4,273 | 50,403 | 2,795 | 18,033 |
| Kansas | 25.4 | 2,353,869 | 487 | 4,834 | 47,567 | 2,495 | 19,065 |
| Kentucky | 25.8 | 2,953,340 | 716 | 4,124 | 59,439 | 3,713 | 16,008 |
| Louisiana | 23.5 | 3,356,509 | 918 | 3,656 | 66,318 | 4,254 | 15,590 |
| Maine | 32.1 | 1,318,938 | 230 | 5,728 | 22,009 | 1,234 | 17,836 |
| Maryland | 24.2 | 4,735,644 | 859 | 5,512 | 110,535 | 4,859 | 22,749 |
| Massachusetts | 24.8 | 5,735,910 | 981 | 5,847 | 141,425 | 5,996 | 23,587 |
| Michigan | 27.4 | 9,461,677 | 1,800 | 5,256 | 180,249 | 9,380 | 19,216 |
| Minnesota | 26.4 | 4,487,164 | 864 | 5,196 | 87,237 | 4,432 | 19,684 |
| Mississippi | 21.9 | 1,686,211 | 561 | 3,007 | 35,627 | 2,593 | 13,740 |
| Missouri | 22.0 | 3,894,240 | 961 | 4,053 | 94,793 | 5,157 | 18,381 |
| Montana | 30.4 | 830,430 | 166 | 5,015 | 13,360 | 809 | 16,515 |
| Nebraska | 23.6 | 1,382,977 | 318 | 4,346 | 29,288 | 1,593 | 18,385 |
| Nevada | 26.3 | 1,159,218 | 223 | 5,191 | 25,359 | 1,283 | 19,765 |
| New Hampshire | 29.1 | 1,238,861 | 197 | 6,294 | 23,842 | 1,104 | 21,596 |
| New Jersey | 30.1 | 10,472,343 | 1,328 | 7,887 | 202,828 | 7,753 | 26,161 |
| New Mexico | 28.9 | 1,452,861 | 330 | 4,409 | 23,666 | 1,549 | 15,278 |
| New York | 30.1 | 22,139,279 | 3,175 | 6,973 | 417,702 | 18,055 | 23,135 |
| North Carolina | 28.8 | 5,762,655 | 1,166 | 4,941 | 115,490 | 6,736 | 17,145 |
| North Dakota | 26.7 | 556,250 | 126 | 4,414 | 10,516 | 635 | 16,561 |
| Ohio | 25.4 | 9,652,191 | 2,058 | 4,690 | 201,882 | 10,941 | 18,452 |
| Oklahoma | 23.0 | 2,339,521 | 625 | 3,745 | 51,760 | 3,175 | 16,302 |
| Oregon | 27.8 | 2,712,602 | 539 | 5,033 | 52,949 | 2,922 | 18,121 |
| Pennsylvania | 29.3 | 11,906,000 | 2,063 | 5,772 | 235,673 | 11,958 | 19,708 |
| Rhode Island | 27.8 | 899,998 | 167 | 5,395 | 19,491 | 1,005 | 19,394 |
| South Carolina | 27.1 | 2,926,987 | 681 | 4,300 | 56,540 | 3,560 | 15,882 |
| South Dakota | 23.8 | 567,948 | 142 | 4,010 | 11,876 | 704 | 16,869 |
| Tennessee | 20.0 | 3,054,495 | 908 | 3,365 | 83,288 | 4,953 | 16,816 |
| Texas | 25.1 | 16,488,014 | 3,688 | 4,470 | 309,269 | 17,348 | 17,827 |
| Utah | 21.9 | 1,541,327 | 470 | 3,281 | 26,493 | 1,770 | 14,968 |
| Vermont | 34.9 | 671,056 | 105 | 6,384 | 10,359 | 567 | 18,269 |
| Virginia | 24.7 | 5,628,514 | 1,105 | 5,095 | 129,345 | 6,280 | 20,596 |
| Washington | 27.7 | 5,228,681 | 943 | 5,546 | 100,490 | 5,012 | 20,050 |
| West Virginia | 34.3 | 1,682,191 | 336 | 5,001 | 26,294 | 1,803 | 14,584 |
| Wisconsin | 28.2 | 5,041,050 | 963 | 5,235 | 92,111 | 4,956 | 18,586 |
| Wyoming | 34.5 | 638,472 | 105 | 6,073 | 8,103 | 460 | 17,615 |

*In constant 1992 dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Public and Private Elementary and Secondary Education Statistics: School year 1991–92* tables 6 and 9 (based on Common Core of Data) and U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, various years and Bureau of the Census, 1990 Census.

## Table 52-4 Public elementary and secondary school revenues as a percentage of GNP, GDP, and revenue sources 1920 through 1991

| School year ending | Public elementary/secondary school revenues | | Sources Percent of total public school revenues | | |
|---|---|---|---|---|---|
| | As a percent of GNP[1] | As a percent of GDP[1,2] | Local[3] | State | Federal |
| 1920[4] | 1.2 | — | 83.2 | 16.5 | 0.3 |
| 1930 | 2.0 | — | 82.7 | 16.9 | 0.4 |
| 1940 | 2.5 | — | 68.0 | 30.3 | 1.8 |
| 1942 | 1.9 | — | 67.1 | 31.4 | 1.4 |
| 1944 | 1.4 | — | 65.6 | 33.0 | 1.4 |
| 1946 | 1.4 | — | 63.9 | 34.7 | 1.4 |
| 1948 | 1.8 | — | 58.3 | 38.9 | 2.8 |
| 1950 | 2.1 | — | 57.3 | 39.8 | 2.9 |
| 1952 | 1.9 | — | 57.9 | 38.6 | 3.5 |
| 1954 | 2.1 | — | 58.1 | 37.4 | 4.5 |
| 1956 | 2.4 | — | 55.9 | 39.5 | 4.6 |
| 1958 | 2.7 | — | 56.6 | 39.4 | 4.0 |
| 1960 | 3.0 | 3.0 | 56.5 | 39.1 | 4.4 |
| 1962 | 3.3 | 3.3 | 56.9 | 38.7 | 4.3 |
| 1964 | 3.4 | 3.4 | 56.3 | 39.3 | 4.4 |
| 1966 | 3.6 | 3.6 | 53.0 | 39.1 | 7.9 |
| 1968 | 3.9 | 3.9 | 52.7 | 38.5 | 8.8 |
| 1970 | 4.2 | 4.2 | 52.1 | 39.9 | 8.0 |
| 1971 | 4.4 | 4.4 | 52.5 | 39.1 | 8.4 |
| 1972 | 4.5 | 4.6 | 52.8 | 38.3 | 8.9 |
| 1973 | 4.3 | 4.3 | 51.3 | 40.0 | 8.7 |
| 1974 | 4.3 | 4.3 | 50.1 | 41.4 | 8.5 |
| 1975 | 4.4 | 4.4 | 48.8 | 42.2 | 9.0 |
| 1976 | 4.5 | 4.5 | 46.5 | 44.6 | 8.9 |
| 1977 | 4.2 | 4.3 | 47.8 | 43.4 | 8.8 |
| 1978 | 4.1 | 4.1 | 47.6 | 43.0 | 9.4 |
| 1979 | 3.9 | 3.9 | 44.6 | 45.6 | 9.8 |
| 1980 | 3.9 | 3.9 | 43.4 | 46.8 | 9.8 |
| 1981 | 3.9 | 3.9 | 43.4 | 47.4 | 9.2 |
| 1982 | 3.6 | 3.6 | 45.0 | 47.6 | 7.4 |
| 1983 | 3.7 | 3.7 | 45.0 | 47.9 | 7.1 |
| 1984 | 3.7 | 3.7 | 45.4 | 47.8 | 6.8 |
| 1985 | 3.6 | 3.6 | 44.4 | 48.9 | 6.6 |
| 1986 | 3.7 | 3.7 | 43.9 | 49.4 | 6.7 |
| 1987 | 3.8 | 3.7 | 43.9 | 49.7 | 6.4 |
| 1988 | 3.8 | 3.7 | 44.1 | 49.5 | 6.3 |
| 1989 | 3.9 | 3.9 | 46.0 | 47.8 | 6.2 |
| 1990 | 4.0 | 4.0 | 46.6 | 47.2 | 6.1 |
| 1991 | 4.1 | 4.0 | 46.6 | 47.3 | 6.1 |

—Not available.

[1] For the calendar year in which the school year began.

[2] Gross domestic product (GDP) is gross national product (GNP) less net property income from abroad.

[3] Includes intermediate sources and a relatively small amount from nongovernmental sources (gifts and tuition and transportation fees from patrons). Nongovernmental sources accounted for 0.4 percent of total revenues in school year 1967–68.

[4] 1919 GNP from U.S. Department of Commerce, Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970, series F 1-5.*

NOTE: Beginning in school year 1980–81, revenues for State education agencies are excluded. Data for school years 1988–90 reflect new survey collection procedures and may not be entirely comparable to figures for earlier years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992,* table 148 (from Common Core of Data, various years); *Public Elementary and Secondary School Aggregate Data, by State for School Years 1991–92 and 1990–91,* 1993.

## Table 52-5 Total and current expenditures per student in public elementary and secondary schools: Selected school years ending 1920 through 1993

| School year ending | Expenditures per student in average daily attendance[1] | | Expenditures per student in fall enrollment[1,2] | |
|---|---|---|---|---|
| | Total[3] | Current | Total[3] | Current |
| 1920 | $471 | $393 | $352 | $293 |
| 1930 | 889 | 711 | 736 | 589 |
| 1932 | 943 | 789 | 798 | 668 |
| 1934 | 808 | 715 | 686 | 607 |
| 1936 | 898 | 758 | 759 | 642 |
| 1938 | 977 | 821 | 839 | 706 |
| 1940 | 1,062 | 884 | 920 | 766 |
| 1942 | 990 | 884 | 848 | 757 |
| 1944 | 1,004 | 942 | 846 | 794 |
| 1946 | 1,122 | 1,049 | 955 | 893 |
| 1948 | 1,233 | 1,092 | 1,077 | 954 |
| 1950 | 1,542 | 1,247 | 1,368 | 1,106 |
| 1952 | 1,679 | 1,314 | 1,470 | 1,150 |
| 1954 | 1,831 | 1,382 | 1,628 | 1,228 |
| 1956 | 2,020 | 1,536 | 1,847 | 1,404 |
| 1958 | 2,198 | 1,676 | 2,005 | 1,529 |
| 1960 | 2,250 | 1,792 | 2,101 | 1,673 |
| 1962 | 2,414 | 1,956 | 2,265 | 1,835 |
| 1964 | 2,542 | 2,094 | 2,365 | 1,949 |
| 1966 | 2,875 | 2,364 | 2,669 | 2,195 |
| 1968 | 3,245 | 2,716 | 3,018 | 2,527 |
| 1970 | 3,547 | 3,030 | 3,261 | 2,786 |
| 1971 | 3,706 | 3,218 | 3,425 | 2,975 |
| 1972 | 3,846 | 3,375 | 3,526 | 3,094 |
| 1973 | 3,967 | 3,530 | 3,659 | 3,255 |
| 1974 | 4,104 | 2,617 | 3,744 | 3,314 |
| 1975 | 4,185 | 3,696 | 3,857 | 3,407 |
| 1976 | 4,294 | 2,789 | 3,956 | 3,505 |
| 1977 | 4,342 | 3,915 | 4,001 | 3,607 |
| 1978 | 4,486 | 4,083 | 4,126 | 3,755 |
| 1979 | 4,527 | 4,139 | 4,157 | 3,801 |
| 1980 | 4,501 | 4,105 | 4,139 | 3,774 |
| 1981[4] | 4,441 | [4]4,052 | 4,097 | 3,737 |
| 1982[4] | 4,433 | [4]4,064 | 4,106 | 3,764 |
| 1983[4] | 4,580 | [4]4,224 | 4,240 | 3,912 |
| 1984[4] | 4,786 | [4]4,374 | 4,433 | 4,053 |
| 1985[4] | 4,937 | [4]4,604 | 4,585 | 4,275 |
| 1986[4] | 5,184 | [4]4,842 | 4,802 | 4,486 |
| 1987[4] | 5,434 | [4]5,008 | 5,039 | 4,645 |
| 1988[4] | 5,637 | [4]5,136 | 5,220 | 4,756 |
| 1989 | 5,916 | 5,377 | 5,485 | 4,987 |
| 1990 | 6,106 | 5,481 | 4,675 | 5,107 |
| 1991[4] | [4]6,120 | [4]5,493 | [4]5,702 | 5,119 |
| 1992[4] | [4]6,187 | [4]5,553 | [4]5,764 | 5,174 |
| 1993[4] | [4]6,135 | [4]5,506 | [4]5,717 | 5,131 |

[1] In constant 1992 dollars, based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor.

[2] Data for 1919–20 through 1953–54 are based on school-year enrollment.

[3] Total Expenditure=current expenditure + capital outlays + interest on debt.

[4] Estimated.

NOTE: Beginning in 1980–81, two changes in definitions were made. State administration expenditures are excluded from both "total" and "current" expenditures, and "other programs" such as summer schools and community services are included in both "total" and "current" expenditures. Beginning in 1988–89, extensive changes were made in the data collection procedures. From school year 1980–81 through 1990–91, capital outlays and interest on debt are estimated. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, table 158 (based on Common Core of Data).

## Note on calculation of national index of public education revenues

There are many indices of public investment in education available. Choosing the most appropriate measure has been an issue in international comparisons as well as national trends. The national index of public school revenues provides a measure of public investment in each student compared to available societal resources.

Public education revenues per student are the ratio of total public education revenues to public and private enrollment. Per capita income is the ratio of total personal income to total population. The index can be expressed algebraically, therefore, as a function of 4 variables:

$$\text{National index} = \frac{\text{Public education revenues per student}}{\text{Per capita income}} \times 100$$

or

$$\text{National index} = \frac{\text{Public education revenues / Total personal income}}{\text{Total enrollment / Total population}} \times 100$$

Revenue data from elementary/secondary and higher education are based on different accounting systems and are not entirely comparable. For example, elementary and secondary public revenues represent additions to assets (cash) from taxes, appropriations, and other funds which do not incur an obligation that must be met at some future date (loans) in all public schools. These include revenues that are spent on construction of buildings and other investments in the physical plant. Because of the difficulty in constructing a comparable time series, public funds going to private schools (for Head Start, handicapped children, etc) have been excluded. For higher education, educational and general public revenues are those available from public sources at both public and private institutions for the *regular or customary activities* of an institution which are part of, contributory to, or necessary to its instructional or research program. These include salaries and travel of faculty and administrative or other employees; purchase of supplies or materials for *current* use in classrooms, libraries, laboratories, or offices; and operation and maintenance of the educational plant. In contrast to elementary/secondary public revenues, higher education public revenues, as defined in this indicator, do not include public funds that would be used for expansion of the physical plant. As a result , the reader should focus on the changes over time in the elementary/secondary and the higher education measures more than on comparisons across levels.

Enrollment is in all institutions, regardless of control. No adjustments were made for part-time enrollment.

Total education revenues are in 1992 dollars, based on the Consumer Price Index (CPI), prepared by the Bureau of Labor Statistics, U.S. Department of Labor, adjusted to a school year basis. Personal income is in constant 1992 dollars.

## Table 53-1 Current public expenditures for education, by country: School year 1988–89

| Country | As a percent of GDP[1] | | | Per student | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Constant 1988–89 U.S. dollars[2] | | | As a fraction of GDP per capita[1] | | |
| | Preprimary | 1st–12th | Higher education | Preprimary | 1st–12th | Higher education | Preprimary | 1st–12th | Higher education |
| Australia[3] | 0.1 | 2.8 | 1.4 | — | $2,330 | $6,119 | — | 15.5 | 40.7 |
| Austria | 0.3 | 3.3 | 1.0 | $1,764 | 3,250 | 5,371 | 11.9 | 22.0 | 36.3 |
| Canada | — | 3.8 | 2.1 | — | 3,508 | 7,109 | — | 19.7 | 40.0 |
| Denmark | 0.2 | 4.5 | 2.0 | 2,768 | 4,035 | 11,683 | 18.1 | 26.4 | 76.3 |
| Finland | 0.5 | 4.1 | 1.1 | 4,630 | 3,688 | 5,620 | 31.6 | 25.2 | 38.3 |
| France | 0.5 | 3.0 | 0.7 | 1,739 | 2,627 | 4,129 | 11.1 | 16.8 | 26.4 |
| West Germany[4] | 0.2 | 2.4 | 0.8 | 985 | 2,750 | 5,185 | 6.0 | 16.8 | 31.7 |
| Ireland | 0.5 | 3.8 | 1.0 | 1,059 | 1,473 | 4,615 | 12.5 | 17.3 | 54.4 |
| Italy | 0.3 | 3.1 | 0.6 | 1,663 | 2,868 | 4,007 | 11.7 | 20.3 | 28.3 |
| Japan | 0.1 | 2.5 | 0.3 | 550 | 2,115 | 2,042 | 3.7 | 14.1 | 13.6 |
| Luxembourg | 0.5 | 4.0 | 0.2 | 3,904 | 4,911 | 10,470 | 23.4 | 29.5 | 62.8 |
| Netherlands | — | 3.1 | 1.7 | — | 2,017 | 9,925 | — | 14.5 | 71.2 |
| Norway | 0.1 | 4.3 | 1.0 | 676 | 3,846 | 6,263 | 4.6 | 26.0 | 42.4 |
| Portugal | 0.1 | 3.3 | 0.7 | 737 | 1,289 | 3,778 | 11.1 | 19.3 | 56.7 |
| Spain[5] | 0.2 | 2.7 | 0.5 | 908 | 1,347 | 1,748 | 9.0 | 13.3 | 17.3 |
| Sweden | 0.2 | 4.4 | 0.9 | 2,192 | 4,689 | 6,143 | 14.6 | 31.2 | 40.9 |
| Switzerland | — | 3.7 | 0.9 | — | 4,737 | 9,669 | — | 25.4 | 51.8 |
| United Kingdom[6] | 0.1 | 3.2 | 0.9 | 1,664 | 2,492 | 7,862 | 11.8 | 17.6 | 55.6 |
| United States | 0.2 | 3.4 | 1.1 | 3,077 | 3,917 | 5,643 | 15.7 | 20.0 | 28.9 |

—Not available.

[1] Gross domestic product is gross national product less net property income from abroad.

[2] Purchasing power parity indices were used to convert other currencies to U.S. dollars. Because the fiscal year has a different starting date in different countries, within-country Consumer Price Indexes (CPI), provided by the International monetary Fund, were used to adjust educational expenditure per pupil data to July 1988.

[3] Expenditure for higher education includes expenditure for vocational secondary education, as it is taught in institutions of higher education.

[4] Includes contributions to the pension funds of teachers who are civil servants.

[5] Public expenditure for education is underestimated because a large part of the pension costs are not included.

[6] Excludes expenditure on nursing and paramedical education.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992; *National Accounts, Volume 1, Main Aggregates: 1969–90;* International Monetary Fund, Bureau of Statistics, *International Financial Statistis,* Volume XLI, Number 12, December 1988.

## Table 53-2 Current and capital public education expenditure as a percentage of total education expenditure, by country: School year 1988–89

| Country | Preprimary |  |  | 1st–12th |  |  | Higher education |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Total expenditure (millions)[1] | Percent current | Percent capital | Total expenditure (millions)[1] | Percent current | Percent capital | Total expenditure (millions)[1] | Percent current | Percent capital |
| Australia[2] | 182 | 96.0 | 4.0 | 7,501 | 93.9 | 6.1 | 3,895 | 86.6 | 13.4 |
| Austria | 367 | 92.5 | 7.5 | 4,070 | 90.8 | 9.2 | 1,249 | 90.0 | 10.0 |
| Canada | — | — | — | 19,191 | 91.8 | 8.2 | 10,244 | 93.9 | 6.1 |
| Denmark | 149 | 96.5 | 3.5 | 3,618 | 96.7 | 3.3 | 1,599 | 97.9 | 2.1 |
| Finland | 387 | 100.0 | 0.0 | 2,944 | 100.0 | 0.0 | 826 | 100.0 | 0.0 |
| France | 4,516 | 97.0 | 3.0 | 28,156 | 91.5 | 8.5 | 6,052 | 95.6 | 4.4 |
| West Germany[3] | 1,825 | 89.6 | 10.4 | 25,874 | 93.7 | 6.3 | 9,591 | 87.3 | 12.7 |
| Ireland | 157 | 95.6 | 4.4 | 1,204 | 95.4 | 4.6 | 338 | 93.1 | 6.9 |
| Italy | 2,743 | 96.2 | 3.8 | 25,795 | 96.8 | 3.2 | 5,716 | 86.6 | 13.4 |
| Japan | 1,327 | 84.6 | 15.4 | 53,755 | 84.4 | 15.6 | 6,561 | 79.1 | 20.9 |
| Luxembourg | 38 | 84.8 | 15.2 | 285 | 86.8 | 13.2 | 13 | 80.6 | 19.4 |
| Netherlands | — | — | — | 7,272 | 88.2 | 11.8 | 3,758 | 95.2 | 4.8 |
| Norway | 86 | 83.3 | 16.7 | 2,871 | 93.4 | 6.6 | 658 | 90.2 | 9.8 |
| Portugal | 92 | 100.0 | 0.0 | 2,465 | 92.6 | 7.4 | 556 | 81.4 | 18.6 |
| Spain[4] | 1,028 | 93.1 | 6.9 | 12,066 | 89.4 | 10.6 | 2,165 | 84.7 | 15.3 |
| Sweden | 213 | 96.0 | 4.0 | 5,864 | 96.0 | 4.0 | 1,170 | 95.1 | 4.9 |
| Switzerland | — | — | — | 5,111 | 90.7 | 9.3 | 1,263 | 84.4 | 15.6 |
| United Kingdom[5] | 1,238 | 96.2 | 3.8 | 26,845 | 96.2 | 3.8 | 7,294 | 94.7 | 5.3 |
| United States | 12,998 | 91.2 | 8.8 | 179,245 | 91.2 | 8.8 | 59,018 | 90.5 | 9.5 |

— Not available.

[1] National currency.

[2] Expenditure for higher education includes expenditure for vocational secondary education, as it is taught in institutions of higher education.

[3] Includes contributions to the pension funds of teachers who are civil servants.

[4] Public expenditure for education is underestimated because a large part of the pension costs are not included.

[5] Excludes expenditure on nursing and paramedical education.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992.

## Table 53-3 Current public expenditure on education as a percentage of total public expenditure, by country: School year 1988–89

| Country | Current public expenditure for education (millions)[1,2] | Total public expenditure (millions)[2] | Current public expenditure on education as a percent of total public expenditure | | | | |
|---|---|---|---|---|---|---|---|
| | | | Total | Preprimary | 1st–12th | Higher education | Undistributed/ other |
| Australia[3] | 14,933 | 117,582 | 12.7 | 0.2 | 8.2 | 3.9 | 0.4 |
| Austria | 80,422 | 797,127 | 10.1 | 0.6 | 6.5 | 2.0 | 1.1 |
| Canada | 35,336 | 265,299 | 13.3 | — | 8.6 | 4.7 | — |
| Denmark | 48,792 | 434,013 | 11.2 | 0.3 | 7.6 | 3.4 | — |
| Finland | 27,334 | 176,691 | 15.5 | 1.3 | 10.1 | 2.8 | 1.1 |
| France | 271,949 | 2,868,444 | 9.5 | 1.0 | 5.9 | 1.3 | 1.3 |
| West Germany[4] | 81,125 | 983,590 | 8.2 | 0.3 | 5.1 | 1.8 | 1.0 |
| Ireland | 1,184 | 10,838 | 10.9 | 1.0 | 7.6 | 2.1 | 0.3 |
| Italy | 48,761,868 | 550,273,000 | 8.9 | 0.6 | 6.0 | 1.2 | 1.0 |
| Japan | 11,701,305 | 119,514,000 | 9.8 | 0.2 | 7.7 | 0.9 | 1.0 |
| Netherlands | 25,906 | 262,010 | 9.9 | — | 5.3 | 3.0 | 1.6 |
| Norway | 36,130 | 313,027 | 11.5 | 0.2 | 8.0 | 1.8 | 1.5 |
| Portugal | 254,965 | 2,612,424 | 9.8 | 0.3 | 7.6 | 1.5 | 0.3 |
| Spain[5] | 1,402,445 | 16,265,100 | 8.6 | 0.6 | 6.8 | 1.2 | 0.1 |
| Sweden | 60,871 | 660,734 | 9.2 | 0.3 | 7.5 | 1.5 | — |
| Switzerland | 12,293 | 93,870 | 13.1 | — | 10.6 | 2.4 | — |
| United Kingdom[6] | 21,149 | 192,427 | 11.0 | 0.4 | 7.8 | 2.1 | 0.7 |
| United States | 228,783 | 1,542,583 | 14.8 | 0.8 | 10.6 | 3.5 | — |

—Not available.

[1] Current expenditures exclude both capital expenditures and servicing of debt.

[2] National currency.

[3] Expenditure for higher education includes expenditure for vocational secondary education, as it is taught in institutions of higher education.

[4] Includes contributions to the pension funds of teachers who are civil servants.

[5] Public expenditures for education is underestimated because a large part of the pension costs are not included.

[6] Excludes expenditure on nursing and paramedical education.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992.

## Table 53-4 Distribution of current public expenditure on education for each school level, by country: School year 1988–89

| Country | Preprimary | 1st–12th | Higher education | Undistributed/other |
|---|---|---|---|---|
| Australia[1] | 1.6 | 64.6 | 30.9 | 2.9 |
| Austria | 5.9 | 64.0 | 19.5 | 10.6 |
| Canada | — | 64.7 | 35.3 | — |
| Denmark | 2.8 | 67.2 | 30.0 | 0.0 |
| Finland | 8.6 | 65.6 | 18.4 | 7.4 |
| France | 10.6 | 62.1 | 13.9 | 13.4 |
| West Germany[2] | 4.2 | 62.3 | 21.5 | 12.0 |
| Ireland | 9.1 | 69.5 | 19.0 | 2.4 |
| Italy | 7.2 | 68.3 | 13.5 | 11.0 |
| Japan | 1.9 | 78.4 | 9.0 | 10.7 |
| Luxembourg | 10.1 | 76.6 | 3.3 | 10.0 |
| Netherlands | — | 54.0 | 30.2 | 15.8 |
| Norway | 1.9 | 69.6 | 15.4 | 13.1 |
| Portugal | 3.1 | 78.2 | 15.5 | 3.2 |
| Spain[3] | 7.0 | 78.6 | 13.4 | 1.1 |
| Sweden | 2.9 | 81.0 | 16.0 | — |
| Switzerland | — | 81.3 | 18.7 | — |
| United Kingdom[4] | 3.3 | 71.0 | 19.0 | 6.8 |
| United States | 5.2 | 71.5 | 23.4 | — |

— Not available.

[1] Expenditure for higher education includes expenditure for vocational secondary education, as it is taught in institutions of higher education.

[2] Includes contributions to the pension funds of teachers who are civil servants.

[3] Public expenditure for education is underestimated because a large part of the pension costs are not included.

[4] Excludes expenditure on nursing and paramedical education.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992.

## Table 53-5 Public current education expenditure (in national currency) and total enrollment, by country: School year 1988–89

| Country | Population (thousands) | GDP[1] (millions) | Public current education expenditure |  |  |  | Enrollment in public and private schools |  |  | PPPI[2] | CPI adjustment[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  | Preprimary | 1st–12th | Higher education | Undistributed/other | Preprimary | 1st–12th | Higher education |  |  |
| Australia[4] | 16,538 | 340,786 | 239 | 9,642 | 4,618 | 434 | — | 3,022,329 | 551,218 | 1.37 | 1.000 |
| Austria | 7,595 | 1,564,680 | 4,734 | 51,489 | 15,661 | 8,538 | 192,571 | 1,136,746 | 209,254 | 14.24 | 1.022 |
| Canada | 25,939 | 598,178 | — | 22,862 | 12,474 | 0 | — | 5,024,117 | 1,352,691 | 1.32 | 1.014 |
| Denmark | 5,130 | 735,520 | 1,348 | 32,771 | 14,660 | 13 | 51,988 | 866,787 | 133,929 | 9.55 | 1.019 |
| Finland | 4,946 | 441,539 | 2,357 | 17,928 | 5,030 | 2,019 | 83,577 | 798,090 | 146,937 | 6.27 | 1.029 |
| France | 55,884 | 5,723,206 | 28,691 | 168,854 | 37,903 | 36,501 | 2,518,602 | 9,807,927 | 1,400,982 | 6.67 | 1.018 |
| West Germany[5] | 61,451 | 2,094,870 | 3,411 | 50,553 | 17,457 | 9,704 | 1,660,284 | 8,816,650 | 1,614,619 | 2.10 | 1.008 |
| Ireland | 3,538 | 21,483 | 108 | 822 | 225 | 29 | 142,018 | 780,513 | 68,166 | 0.72 | 1.011 |
| Italy | 57,441 | 1,082,926,000 | 3,515,093 | 33,281,391 | 6,595,260 | 5,370,124 | 1,586,850 | 8,708,722 | 1,235,306 | 1358.92 | 1.020 |
| Japan | 122,600 | 371,428,000 | 227,022 | 9,175,739 | 1,048,833 | 1,249,710 | 2,041,820 | 21,458,215 | 2,540,436 | 201.67 | 0.997 |
| Luxembourg | 375 | 248,040 | 1,293 | 9,814 | 425 | 1,286 | 8,338 | 50,339 | 1,022 | 40.09 | 1.010 |
| Netherlands | 14,760 | 449,420 | — | 14,000 | 7,813 | 4,093 | — | 3,180,373 | 360,633 | 2.20 | 1.008 |
| Norway | 4,209 | 583,277 | 674 | 25,159 | 5,573 | 4,724 | 106,313 | 697,155 | 94,845 | 9.67 | 1.031 |
| Portugal | 10,305 | 6,002,751 | 8,013 | 199,330 | 39,527 | 8,096 | 124,448 | 1,769,545 | 119,778 | 91.03 | 1.042 |
| Spain[6] | 38,809 | 40,160,400 | 97,753 | 1,101,835 | 187,329 | 15,529 | 1,054,241 | 8,009,405 | 1,049,236 | 104.41 | 1.022 |
| Sweden | 8,436 | 1,110,163 | 1,790 | 49,328 | 9,752 | 0 | 93,210 | 1,200,642 | 181,182 | 8.76 | 1.000 |
| Switzerland | 6,672 | 268,410 | — | 9,995 | 2,298 | 0 | 132,879 | 978,863 | 110,266 | 2.17 | 1.005 |
| United Kingdom[7] | 57,065 | 468,756 | 692 | 15,014 | 4,015 | 1,428 | 716,000 | 10,367,891 | 878,758 | 0.59 | 1.008 |
| United States | 246,329 | 4,817,775 | 11,855 | 163,507 | 53,421 | 0 | 3,852,229 | 41,741,626 | 9,466,878 | 1.00 | 1.000 |

—Not available.

[1] Gross domestic product is gross national product less net property income from abroad.

[2] Average of 1988 and 1989 purchasing power parity index (PPPI).

[3] Because the fiscal year has a different starting month in different countries, within-country Consumer Price Indexes (CPI), provided by the International Monetary Fund, were used to adjust educational expenditure per student data to July 1988. This CPI adjustment is the ratio between the within-country CPI for July 1988 and the within-country CPI for the starting month of the country's fiscal year.

[4] Expenditure for higher education includes expenditure for vocational secondary education, as it is taught in institutions of higher education.

[5] Includes contributions to the pension funds of teachers who are civil servants.

[6] Public expenditure for education is underestimated because a large part of the pension costs are not included.

[7] Excludes expenditure on nursing and paramedical education.

SOURCE: Organization for Economic Co-operation and Development, unpublished tabulations, 1992; and *National Accounts, Volume 1, Main Aggregates: 1969–90*; International Monetary Fund, Bureau of Statistics, *International Financial Statistics*, Volume XLI, Number 12, December 1988.

## Note on international comparisons of current public education expenditures

The purpose of this indicator is to compare *public* support for education across the "larger" countries, based on Gross Domestic Product (GDP), population, and school enrollment, for which the data are available.

### Definitions

*Public education expenditures* include funds channeled to both public and private schools by federal, state, and local governments either directly or through students. This includes expenditures at public schools funded by public sources and subsides to students at private schools from government agencies. *Private education expenditures* are expenditures financed by private sources—households, private non-profit institutions, businesses, and corporations. For example, this includes expenditures supported by public and private school tuition and fees and expenses for books and materials that must be purchased by students themselves.

*Current expenditures* are expenditures for educational goods and services whose life span should not in principle exceed the current year (salaries of personnel, school books and other teaching materials, scholarships, minor repairs and maintenance to school buildings, administration, etc.). Current expenditures exclude both capital expenditures (construction of buildings, major repairs, major items of equipment, vehicles) and the servicing of debt.

This indicator focuses on the portion of current education expenditures at both public and private schools funded by public sources.

### Expenditures in the United States

#### *Elementary and Secondary*

For the United States, *current public expenditures for elementary and secondary education* include current expenditures in local public school districts funded by state and local taxes, federal programs administered by the U.S. Department of Education (ED), and programs operated outside of ED that are not administered by state or local education agencies, e.g., Head Start, Department of Defense Schools, and schools operated by the Bureau of Indian Affairs. Also included are expenditures to operate ED and other activities such as research, statistics, assessment, and school improvement.

Not available for inclusion were state expenditures to operate state departments of education and other direct state expenditures, including state schools for the deaf and blind and programs in correctional institutions. This exclusion produces an undercount of public expenditures that could reach $5 billion. Other countries may include these expenditures as "other" or "not distributed" (see supplemental table 53-4), so the undercount may not be a problem for the U.S. alone.

#### *Higher Education*

*Current public expenditures for higher education* in the United States includes expenditures at both public and private colleges and universities funded by federal, state and local governments. The Integrated Postsecondary Education Data System (IPEDS), the core postsecondary education data collection program for NCES, gathers institutional reports of revenue received by both public and private institutions from both public and private sources. Current expenditures by public and private non-profit institutions are separated into public and private expenditures based on the share of current fund revenues from federal, state, and local sources.

Most federal aid goes to students who then spend it on education (e.g., tuition) and non-education (room and board) services. It was assumed that 60 percent of federally administered Pell Grants were spent by students on education expenditures.

With the exception of Pell Grant money, public expenditures for less-than-2-year public and private institutions were not available and *current public expenditures for higher education* in the United States is therefore biased downward. But the students participating in these institutions are also excluded from higher education enrollments, so the estimate of *public expenditures per student* would be biased upward if per-student public expenditures in less-than-two-year institutions is less than in other higher education institutions.

### Private Expenditures

*Per pupil expenditures* are calculated as current public expenditures divided by enrollment in both public and private schools. This is a measure of average public investment per student in the education system. It is not a measure of total resources a student receives which would include private expenditures. For Canada, France, Germany, Japan, and the United States, private education expenditures are a significant portion of GDP.

**Total Expenditures on Education in 1988**

| | Percentage of GDP | | |
|---|---|---|---|
| Country | Public sources | Private sources | Total |
| Canada | 6.4 | 0.8 | 7.2 |
| France | 5.1 | 0.7 | 5.8 |
| Germany | 4.3 | 1.9 | 6.2 |
| Italy | 4.8 | — | — |
| Japan | 3.8 | 1.2 | 4.9 |
| United Kingdom | 4.7 | — | — |
| United States | 5.0 | 0.7 | 5.7 |

—Not available

NOTE: *Total expenditures* include current expenditures, capital expenditures, and interest on debt.

SOURCE: Organization for Economic Co-operation and Development, *Education at a Glance: OECD Indicators*, 1992, table P1.

### How Students Are Classified

The International Standard Classification of Education (ISCED) was designed as an instrument for presenting statistics of education internationally. Many countries report education statistics to UNESCO and the Organization for Economic Co-operation and Development (OECD) using the ISCED. In this classification system, education is divided into several levels. The following are summary definitions used in this indicator:

> *Education preceding the first level*, where it is provided, usually begins at age 3, 4, or 5 (sometimes earlier) and lasts from 1 to 3 years. For the United States, this would primarily be nursery schools and kindergarten classes.
>
> *Education at the first level* usually begins at age 5, 6, or 7, and lasts for about 5 or 6 years. For the United States this would start with first grade and finish with grade 6.
>
> *Education at the second level, first stage*, begins at about age 11 or 12 and lasts for about 3 years. *Education at the second level, second stage*, begins at about age 14 or 15 and lasts for about 3 years. For the United States second level would start with grade 7 and finish with grade 12.
>
> *Education at the third level* is provided at universities, colleges, and professional schools, and typically requires as a minimum condition of admission the successful completion of education at the second level (or equivalent knowledge). For the United States, third level includes junior colleges and degree-granting technical institutes in addition to 4-year colleges and universities.

For the United States, pre-primary education includes enrollment in both public and private nursery schools and kindergartens. This is what is considered *education preceding the first level* using ISCED terminology. ISCED levels 1 and 2 are defined as total public and private enrollments in grades 1–12 and ISCED level 3 is defined as higher education for the purposes of this indicator. Expenditures reported by countries as "undistributed" or "other" are shown in table 53-4, and are not allocated across education levels in this indicator.

### How Expenditures Are Compared Across Countries

To compare public expenditures per student in the United States with expenditures per student in other countries, expenditures must be denominated in a common currency. Conversion of other countries' expenditures to U.S. dollars facilitates comparison with expenditures in the United States. There are at least two methods of conversion: (1) market exchange rates and (2) purchasing power parity (PPP) indices.

The market exchange rate is the rate at which an individual can exchange the currencies of two countries. It is determined by confidence in the government, the monetary system, and the economies of the two countries and by the relative demands for commodities the two countries trade with each other. Market exchange rates can be highly volatile.

PPP indices are calculated by comparing the cost of a fixed market basket of goods in each country. Changes over time in the PPP index are determined by the rates of inflation in each country. The PPP index is not volatile.[9]

PPP indices for Gross Domestic Product (GDP) have been used in this indicator.[10]

Because the fiscal year has a different starting month in different countries, within-country consumer price indexes (CPI) calculated by the International Monetary Fund were used to adjust educational expenditure per pupil data to allow for inflation between the starting month of the fiscal year and July 1, 1988. See supplemental table 53-5 for both the PPP indices used in this indicator and the CPI adjustment ratios.

NOTES:

1. For a further argument against using market exchange rates see Rasel, Edith M. and Lawrence Mishel, *Shortchanging Education*, Economic Policy Institute, January 1990.

2. PPP indices for other aggregates such as private consumption expenditures are available. See Barro, Stephen M., *International Comparisons of Education Spending: Some Conceptual and Methodological Issues*, SMB Economic Research, Inc., April 1990, for a discussion of the strengths and weaknesses of using various indices.

## Table 54-1 Percentage distribution of sources of general education revenue of institutions of higher education, by type and control of institution: Fiscal year 1991 (Percent from each source)

| Resenue source | Type of institution | | |
|---|---|---|---|
| | All | 4-year | 2-year |
| | | **All institutions** | |
| **Total** | **100.0** | **100.0** | **100.0** |
| Tuition and fees | 33.6 | 35.1 | 24.8 |
| Government appropriations | 37.1 | 32.6 | 63.2 |
| Federal | 1.7 | 1.8 | 0.7 |
| State and local | 35.4 | 30.8 | 62.6 |
| Government grants and contracts | 15.2 | 16.1 | 9.9 |
| Federal | 11.6 | 12.9 | 4.3 |
| State and local | 3.6 | 3.2 | 5.6 |
| Private gifts, grants, and contracts | 7.5 | 8.6 | 1.3 |
| Endowment income | 2.9 | 3.4 | 0.2 |
| Sales and servces of educatonal activities | 3.6 | 4.2 | 0.6 |
| | | **Public institutions** | |
| **Total** | **100.0** | **100.0** | **100.0** |
| Tuition and fees | 20.8 | 20.9 | 20.4 |
| Government appropriations | 55.4 | 52.2 | 68.1 |
| Federal | 2.2 | 2.6 | 0.7 |
| State and local | 53.2 | 49.6 | 67.4 |
| Government grants and contracts | 14.5 | 15.7 | 9.9 |
| Federal | 10.8 | 12.5 | 4.2 |
| State and local | 3.6 | 3.2 | 5.6 |
| Private gifts, grants, and contracts | 5.0 | 6.0 | 0.9 |
| Endowment income | 0.6 | 0.7 | 0.1 |
| Sales and servces of educatonal activities | 3.7 | 4.5 | 0.5 |
| | | **Private institutions** | |
| **Total** | **100.0** | **100.0** | **100.0** |
| Tuition and fees | 58.4 | 57.7 | 79.7 |
| Government appropriations | 1.6 | 1.6 | 1.9 |
| Federal | 0.6 | 0.6 | 0.3 |
| State and local | 1.0 | 1.08 | 1.5 |
| Government grants and contracts | 16.5 | 16.7 | 10.2 |
| Federal | 13.2 | 13.4 | 6.5 |
| State and local | 3.3 | 3.3 | 3.7 |
| Private gifts, grants, and contracts | 12.4 | 12.6 | 5.9 |
| Endowment income | 7.5 | 7.7 | 1.4 |
| Sales and servces of educatonal activities | 3.6 | 3.7 | 0.9 |

NOTE: General education revenue as used in this indicator excludes four categories of revenue received by many institutions: (1) sales and services of auxiliary enterprises, (2) sales and services of hospitals, (3) independent operations (federally-funded research and development centers), and (4) other sources. In addition, the amount of funds reported for Pell Grants has been excluded under tuition and auxiliary enterprises.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1991 IPEDS Survey of financial Statistics of Institutions of Higher Education.

## Table 54-2 General education revenue for institutions of higher education, by control of institutions and revenue source: Selected fiscal years, 1976–91 (billions of 1992 dollars)

| Revenue source | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| **All institutions** | | | | | | | |
| **Total** | **$92.8** | **$98.1** | **$103.4** | **$106.7** | **$111.5** | **$115.4** | **$116.6** |
| Tuition and fees | 28.2 | 29.8 | 32.4 | 33.7 | 35.7 | 37.5 | 39.2 |
| Government appropriations | 39.7 | 41.5 | 42.0 | 42.9 | 43.7 | 44.2 | 43.2 |
| Federal | 2.1 | 2.1 | 2.1 | 2.0 | 1.9 | 2.1 | 1.9 |
| State and local | 37.6 | 39.4 | 39.9 | 40.9 | 41.7 | 42.1 | 41.3 |
| Government grants and contracts | 12.8 | 13.9 | 15.2 | 15.7 | 16.8 | 17.6 | 17.7 |
| Federal | 10.7 | 11.4 | 12.1 | 12.4 | 12.9 | 13.4 | 13.6 |
| State and local | 2.2 | 2.5 | 3.1 | 3.3 | 3.9 | 4.2 | 4.2 |
| Private gifts, grants, and contracts | 6.5 | 7.0 | 7.5 | 7.7 | 8.2 | 8.6 | 8.8 |
| Endowment income | 2.8 | 2.9 | 3.0 | 3.1 | 3.4 | 3.5 | 3.4 |
| Sales and services of educational activities | 2.8 | 3.1 | 3.3 | 3.5 | 3.8 | 4.0 | 4.2 |
| **Public institutions** | | | | | | | |
| **Total** | **$63.1** | **$66.8** | **$68.9** | **$71.1** | **$74.1** | **$76.6** | **$76.9** |
| Tuition and fees | 11.5 | 12.2 | 12.9 | 13.5 | 14.4 | 15.3 | 16.0 |
| Government appropriations | 39.0 | 40.8 | 41.2 | 42.2 | 43.0 | 43.5 | 42.6 |
| Federal | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.8 | 1.7 |
| State and local | 37.2 | 39.0 | 39.4 | 40.4 | 41.3 | 41.7 | 40.9 |
| Government grants and contracts | 7.9 | 8.5 | 9.2 | 9.5 | 10.3 | 10.9 | 11.2 |
| Federal | 6.4 | 6.8 | 7.0 | 7.4 | 7.8 | 8.1 | 8.3 |
| State and local | 1.5 | 1.7 | 2.2 | 2.2 | 2.5 | 2.8 | 2.8 |
| Private gifts, grants, and contracts | 2.4 | 2.7 | 2.9 | 3.0 | 3.4 | 3.7 | 3.8 |
| Endowment income | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 |
| Sales and services of educational activities | 1.9 | 2.1 | 2.2 | 2.4 | 2.5 | 2.7 | 2.8 |
| **Private institutions** | | | | | | | |
| **Total** | **$27.5** | **$29.0** | **$32.0** | **$33.0** | **$34.6** | **$35.9** | **$37.1** |
| Tuition and fees | 15.5 | 16.3 | 18.1 | 18.7 | 19.7 | 20.6 | 21.7 |
| Government appropriations | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 |
| Federal | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 |
| State and local | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Government grants and contracts | 4.6 | 4.9 | 5.6 | 5.7 | 6.0 | 6.2 | 6.1 |
| Federal | 3.9 | 4.2 | 4.7 | 4.6 | 4.7 | 4.9 | 4.9 |
| State and local | 0.6 | 0.7 | 0.9 | 1.1 | 1.3 | 1.3 | 1.2 |
| Private gifts, grants, and contracts | 3.7 | 3.9 | 4.3 | 4.3 | 4.4 | 4.5 | 4.6 |
| Endowment income | 2.2 | 2.2 | 2.4 | 2.5 | 2.7 | 2.7 | 2.8 |
| Sales and services of educational activities | 0.9 | 0.9 | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 |

NOTE: The average consumer price index for the school year was used to convert revenue figures to constant dollars. See note to table 54-1 for information on the sources of revenue excluded from the totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992,* tables 312, 313, and 314 (based on IPEDS/HEGIS Financial Statistics Surveys.)

## Table 55-1 Index of expenditures (in constant dollars) per full-time-equivalent student at *public* institutions, by type of expenditure and type of institution: Academic years ending 1977–91

(1981=100)

| Academic year ending | Total | Instruction | Administration[1] | Student services | Research | Libraries | Public service | Operation and maintenance of plant | Scholarships and fellowships | Mandatory transfers |
|---|---|---|---|---|---|---|---|---|---|---|
| **Universities** | | | | | | | | | | |
| 1977 | 98 | 99 | 99 | 96 | 91 | 107 | 96 | 98 | 111 | 120 |
| 1978 | 99 | 101 | 101 | 100 | 93 | 103 | 94 | 100 | 107 | 103 |
| 1979 | 103 | 104 | 104 | 101 | 99 | 102 | 101 | 105 | 102 | 104 |
| 1980 | 102 | 102 | 99 | 102 | 101 | 116 | 99 | 102 | 101 | 101 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 99 | 99 | 100 | 98 | 97 | 99 | 96 | 101 | 97 | 85 |
| 1983 | 98 | 99 | 100 | 98 | 96 | 100 | 96 | 102 | 98 | 84 |
| 1984 | 101 | 101 | 103 | 100 | 98 | 104 | 98 | 105 | 104 | 101 |
| 1985 | 106 | 105 | 113 | 104 | 105 | 105 | 102 | 107 | 107 | 94 |
| 1986 | 110 | 108 | 119 | 108 | 110 | 110 | 107 | 107 | 118 | 130 |
| 1987 | 112 | 111 | 122 | 111 | 114 | 106 | 106 | 102 | 122 | 136 |
| 1988 | 115 | 111 | 124 | 114 | 120 | 113 | 108 | 102 | 130 | 159 |
| 1989 | 117 | 111 | 126 | 115 | 124 | 112 | 113 | 101 | 139 | 155 |
| 1990 | 117 | 111 | 125 | 113 | 127 | 110 | 113 | 100 | 141 | 162 |
| 1991 | 120 | 113 | 127 | 115 | 132 | 110 | 118 | 100 | 153 | 172 |
| **4-year colleges** | | | | | | | | | | |
| 1977 | 96 | 99 | 93 | 90 | 84 | 96 | 89 | 93 | 119 | 102 |
| 1978 | 97 | 100 | 94 | 94 | 86 | 96 | 89 | 95 | 107 | 111 |
| 1979 | 100 | 102 | 99 | 101 | 95 | 97 | 93 | 98 | 103 | 108 |
| 1980 | 101 | 101 | 102 | 103 | 102 | 99 | 100 | 99 | 105 | 99 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 100 | 101 | 102 | 94 | 95 | 96 | 99 | 101 | 89 | 85 |
| 1983 | 97 | 99 | 98 | 94 | 92 | 91 | 96 | 99 | 91 | 87 |
| 1984 | 98 | 99 | 104 | 101 | 93 | 95 | 98 | 94 | 90 | 93 |
| 1985 | 104 | 104 | 111 | 105 | 101 | 97 | 110 | 102 | 88 | 89 |
| 1986 | 108 | 108 | 115 | 109 | 111 | 99 | 113 | 97 | 98 | 104 |
| 1987 | 108 | 107 | 117 | 107 | 116 | 89 | 124 | 94 | 105 | 94 |
| 1988 | 109 | 109 | 117 | 111 | 122 | 94 | 132 | 93 | 107 | 96 |
| 1989 | 107 | 107 | 114 | 107 | 126 | 91 | 132 | 89 | 105 | 95 |
| 1990 | 109 | 107 | 118 | 107 | 127 | 91 | 140 | 87 | 111 | 92 |
| 1991 | 105 | 104 | 114 | 107 | 126 | 83 | 135 | 84 | 112 | 86 |
| **2-year colleges** | | | | | | | | | | |
| 1977 | 102 | 103 | 97 | 98 | (2) | 114 | (2) | 96 | 132 | 147 |
| 1978 | 103 | 103 | 104 | 96 | (2) | 115 | 101 | 97 | 100 | 148 |
| 1979 | 106 | 105 | 109 | 102 | (2) | 114 | (2) | 101 | 105 | 166 |
| 1980 | 104 | 104 | 104 | 104 | (2) | 106 | 108 | 102 | 108 | 134 |
| 1981 | 100 | 100 | 100 | 100 | (2) | 100 | 100 | 100 | 100 | (2) |
| 1982 | 100 | 100 | 100 | 101 | (2) | 107 | (2) | 103 | 91 | (2) |
| 1983 | 95 | 95 | 97 | 97 | (2) | 90 | (2) | 97 | 88 | (2) |
| 1984 | 96 | 96 | 100 | 97 | (2) | 91 | (2) | 98 | (2) | (2) |
| 1985 | 105 | 105 | 112 | 106 | (2) | 98 | (2) | 107 | 102 | (2) |
| 1986 | 109 | 107 | 118 | 112 | (2) | 100 | (2) | 108 | 106 | (2) |
| 1987 | 110 | 108 | 126 | 119 | (2) | 80 | 111 | 107 | 110 | (2) |
| 1988 | 109 | 106 | 121 | 124 | (2) | 94 | 114 | 103 | 116 | (2) |
| 1989 | 110 | 107 | 124 | 119 | (2) | 90 | 126 | 102 | 115 | (2) |
| 1990 | 107 | 105 | 120 | 119 | (2) | 86 | 120 | 98 | 107 | (2) |
| 1991 | 108 | 106 | 122 | 122 | (2) | 84 | 120 | 97 | 113 | (2) |

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[1] Includes institutional and academic support, less libraries.

[2] Not calculated; expenditure category constituted 2 percent or less of total expenditures.

NOTE: The Higher Education Price Index was used to convert expenditure figures to constant dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, tables 327, 328, 329; 1990 IPEDS Financial Statistics and Fall Enrollment surveys.

## Table 55-2 Index of expenditures (in constant dollars) per full-time-equivalent student at *private (nonprofit)* institutions by type of expenditure and type of institution: Academic years ending 1977–91

(1981=100)

| Academic year ending | Total | Instruction | Administration[1] | Student services | Research | Libraries | Public service | Operation and maintenance of plant | Scholarships and fellowships | Mandatory transfers |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Universities** | | | | | |
| 1977 | 97 | 97 | 92 | 92 | 103 | 110 | 105 | 93 | 96 | 68 |
| 1978 | 96 | 96 | 92 | 92 | 101 | 110 | 98 | 92 | 98 | 71 |
| 1979 | 97 | 95 | 98 | 95 | 102 | 103 | 99 | 96 | 96 | 84 |
| 1980 | 99 | 98 | 101 | 95 | 102 | 99 | 110 | 96 | 95 | 83 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 100 | 102 | 99 | 103 | 95 | 100 | 97 | 104 | 99 | 76 |
| 1983 | 101 | 104 | 107 | 106 | 91 | 98 | 100 | 102 | 100 | 77 |
| 1984 | 108 | 109 | 118 | 113 | 97 | 111 | 103 | 107 | 115 | 83 |
| 1985 | 113 | 112 | 121 | 121 | 103 | 107 | 132 | 110 | 122 | 101 |
| 1986 | 117 | 116 | 126 | 128 | 109 | 111 | 135 | 111 | 130 | 100 |
| 1987 | 128 | 129 | 139 | 140 | 119 | 106 | 158 | 108 | 145 | 116 |
| 1988 | 129 | 127 | 141 | 140 | 122 | 122 | 153 | 110 | 150 | 125 |
| 1989 | 131 | 131 | 143 | 140 | 122 | 120 | 159 | 108 | 155 | 135 |
| 1990 | 133 | 132 | 141 | 141 | 125 | 123 | 163 | 110 | 160 | 154 |
| 1991 | 137 | 138 | 145 | 146 | 123 | 118 | 170 | 117 | 171 | 144 |
| | | | | | **4-year colleges** | | | | | |
| 1977 | 97 | 100 | 94 | 91 | 97 | 105 | 101 | 94 | 96 | 98 |
| 1978 | 97 | 100 | 94 | 93 | 92 | 106 | 91 | 95 | 94 | 97 |
| 1979 | 98 | 101 | 96 | 95 | 101 | 104 | 92 | 95 | 93 | 99 |
| 1980 | 100 | 101 | 98 | 98 | 104 | 102 | 93 | 99 | 97 | 103 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 101 | 101 | 103 | 102 | 93 | 100 | 110 | 100 | 101 | 99 |
| 1983 | 104 | 104 | 106 | 107 | 91 | 105 | 108 | 100 | 103 | 99 |
| 1984 | 107 | 107 | 110 | 111 | 94 | 107 | 111 | 101 | 113 | 104 |
| 1985 | 111 | 110 | 114 | 116 | 100 | 109 | 117 | 102 | 122 | 109 |
| 1986 | 115 | 112 | 119 | 121 | 111 | 111 | 128 | 102 | 132 | 114 |
| 1987 | 122 | 116 | 132 | 128 | 118 | 98 | 143 | 103 | 146 | 118 |
| 1988 | 125 | 118 | 130 | 132 | 124 | 109 | 160 | 103 | 158 | 110 |
| 1989 | 125 | 118 | 132 | 134 | 124 | 109 | 158 | 102 | 161 | 118 |
| 1990 | 128 | 119 | 132 | 138 | 123 | 110 | 172 | 101 | 173 | 123 |
| 1991 | 130 | 120 | 137 | 142 | 114 | 104 | 172 | 100 | 184 | 121 |
| | | | | | **2-year colleges** | | | | | |
| 1977 | 103 | 106 | 99 | 96 | (2) | 121 | (2) | 108 | (2) | 87 |
| 1978 | 97 | 99 | 96 | 96 | (2) | 117 | (2) | 101 | 86 | 73 |
| 1979 | 101 | 104 | 98 | 105 | (2) | 113 | (2) | 99 | 93 | 84 |
| 1980 | 100 | 102 | 100 | 101 | (2) | 110 | (2) | 97 | 99 | 83 |
| 1981 | 100 | 100 | 100 | 100 | (2) | 100 | (2) | 100 | 100 | 100 |
| 1982 | 96 | 98 | 101 | 99 | (2) | 95 | (2) | 93 | 87 | 80 |
| 1983 | 100 | 101 | 101 | 100 | (2) | 95 | (2) | 99 | 100 | 96 |
| 1984 | 100 | 98 | 103 | 103 | (2) | 94 | (2) | 101 | 107 | 75 |
| 1985 | 110 | 107 | 111 | 124 | (2) | 104 | (2) | 109 | 119 | 71 |
| 1986 | 111 | 110 | 113 | 128 | (2) | 103 | (2) | 108 | 120 | 62 |
| 1987 | 137 | 125 | 163 | 146 | (2) | 107 | (2) | 138 | 138 | 67 |
| 1988 | 138 | 135 | 148 | 147 | (2) | 100 | (2) | 129 | 168 | 53 |
| 1989 | 119 | 116 | 126 | 127 | (2) | 82 | (2) | 111 | 150 | 57 |
| 1990 | — | — | — | — | — | — | — | — | — | — |
| 1991 | — | — | — | — | — | — | — | — | — | — |

—Not available.

[1] Includes institutional and academic support, less libraries.

[2] Not calculared; expenditure category constituted 2 percent or less of total expenditures.

NOTE: The Higher Education Price Index was used to convert expenditure figures to constant dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, tables 330 and 331 (based on IPEDS/HEGIS Financial Statistics and Fall enrollment surveys); 1991 IPEDS Financial Statistics and Fall Enrollment surveys.

**Table 55-3** **Index of average undergraduate tuition charges (in constant dollars) at institutions of higher education, by type and control of institution: Academic years ending 1977–91**

(1981=100)

| Academic year ending | Public institutions | | | Private institutions | | |
|---|---|---|---|---|---|---|
| | University | Other 4-year | 2-year | University | Other 4-year | 2-year |
| 1977 | 105 | 109 | 101 | 100 | 97 | 92 |
| 1978 | 105 | 108 | 103 | 99 | 97 | 93 |
| 1979 | 103 | 105 | 102 | 99 | 100 | 92 |
| 1980 | 102 | 102 | 101 | 99 | 99 | 95 |
| 1981 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1982 | 104 | 102 | 101 | 104 | 103 | 98 |
| 1983 | 109 | 111 | 103 | 112 | 109 | 107 |
| 1984 | 114 | 118 | 110 | 118 | 113 | 104 |
| 1985 | 116 | 119 | 114 | 123 | 116 | 111 |
| 1986 | 123 | 118 | 121 | 127 | 122 | 112 |
| 1987 | 128 | 122 | 119 | 134 | 129 | 108 |
| 1988 | 128 | 133 | 123 | 140 | 132 | 117 |
| 1989 | 130 | 135 | 120 | 142 | 136 | 128 |
| 1990 | 135 | 135 | 117 | 147 | 139 | 131 |
| 1991 | 136 | 136 | 121 | 153 | 142 | 133 |

NOTE: Tuition charges and fees are in constant dollars, adjusted by the Consumer Price Index for the academic year (July 1–June 30). They are for the entire academic year and are average charges paid by students. They were calculated on the basis of full-time-equivalent undergraduates. Tuition at public institutions is the charge to in-state students. The amount at private institutions includes charges at both nonprofit and proprietary schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1992*, tables 38 and 301 (based on IPEDS Institutional Characteristics and Fall Enrollment surveys).

## Table 56-1 Percentage of full-time students receiving financial aid, by source of aid, degree level, and type and control of institution: Fall 1986 and fall 1989

| | Any aid | | Federal | | State | | Institutional* | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 |
| | | | | | **Undergraduate students** | | | | | |
| **Total** | **60.4** | **56.4** | **46.6** | **41.9** | **20.6** | **21.1** | **22.8** | **20.9** | **7.7** | **9.9** |
| Public | 53.1 | 48.3 | 39.9 | 34.8 | 18.3 | 19.1 | 15.9 | 13.8 | 6.9 | 9.0 |
| 4-year | 54.7 | 49.9 | 41.5 | 36.0 | 19.1 | 19.7 | 17.1 | 16.0 | 7.3 | 9.3 |
| 2-year | 48.7 | 44.5 | 35.7 | 32.2 | 16.6 | 18.4 | 13.8 | 9.8 | 6.0 | 8.1 |
| Less than 2-year | 68.0 | 56.3 | 54.3 | 37.5 | 17.9 | 10.2 | 10.9 | 1.7 | 4.6 | 12.1 |
| Private, nonprofit | 74.2 | 70.4 | 55.5 | 49.4 | 30.7 | 30.6 | 49.4 | 48.7 | 11.3 | 14.7 |
| 4-year | 74.2 | 70.5 | 55.3 | 49.1 | 30.6 | 31.0 | 50.6 | 50.6 | 11.6 | 14.7 |
| 2-year | 75.3 | 66.9 | 57.6 | 49.4 | 32.2 | 26.9 | 35.8 | 30.2 | 8.2 | 16.5 |
| Less than 2-year | 70.0 | 79.3 | 62.3 | 69.2 | 26.9 | 21.0 | 5.9 | 2.7 | 7.5 | 7.1 |
| Private, for-profit | 86.4 | 87.0 | 82.0 | 82.1 | 11.4 | 12.2 | 5.3 | 6.1 | 4.0 | 5.0 |
| 2-year and above | 85.9 | 87.2 | 82.2 | 81.7 | 19.1 | 19.3 | 5.3 | 7.5 | 3.6 | 7.2 |
| Less than 2-year | 86.6 | 86.9 | 81.9 | 82.4 | 6.6 | 6.4 | 5.3 | 5.0 | 4.2 | 3.3 |
| | | | | | **Postbaccalaureate students** | | | | | |
| **Total** | **73.9** | **66.9** | **44.4** | **36.8** | **9.6** | **6.2** | **48.5** | **43.0** | **10.9** | **13.5** |
| Master's | 68.0 | 60.7 | 31.5 | 27.9 | 5.9 | 4.9 | 47.8 | 40.1 | 11.4 | 12.3 |
| Public | 67.6 | 58.9 | 30.1 | 24.9 | 6.1 | 6.1 | 48.6 | 41.9 | 8.7 | 9.3 |
| Private | 68.5 | 63.5 | 33.6 | 32.7 | 5.6 | 2.8 | 46.5 | 37.1 | 15.5 | 17.2 |
| Doctor's | 86.9 | 77.6 | 26.9 | 18.8 | 5.5 | 6.1 | 73.3 | 69.6 | 11.7 | 17.2 |
| Public | 89.3 | 76.1 | 28.6 | 16.7 | 7.1 | 7.9 | 75.1 | 68.5 | 11.4 | 19.4 |
| Private | 83.6 | 80.0 | 24.5 | 22.4 | 3.2 | 3.2 | 70.6 | 71.4 | 12.0 | 13.7 |
| First-professional | 75.2 | 73.4 | 65.1 | 62.5 | 15.2 | 8.8 | 39.3 | 34.9 | 10.0 | 14.6 |
| Public | 74.8 | 72.9 | 65.0 | 62.8 | 14.1 | 11.8 | 32.4 | 35.2 | 10.2 | 11.1 |
| Private | 75.4 | 73.8 | 65.2 | 62.3 | 15.7 | 6.7 | 42.9 | 34.7 | 9.9 | 17.0 |

*Data for undergraduates differ from previously published figures.

NOTE: At the postbaccalaureate level, private institutions include nonprofit and for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

## Table 56-2 Average amount of financial aid in 1992 dollars received by full-time students receiving aid, by source of aid, degree level, and type and control of institution: Fall 1986 and 1989

| | Any aid | | Federal | | State | | Institutional[1] | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 |
| | | | | | **Undergraduate students** | | | | | |
| **Total** | **$4,531** | **$4,905** | **$3,581** | **$3,774** | **$1,577** | **$1,613** | **$2,575** | **$2,809** | **$1,895** | **$2,170** |
| Public | 3,439 | 3,649 | 3,137 | 3,208 | 1,112 | 1,249 | 1,648 | 1,626 | 1,438 | 1,750 |
| 4-year | 3,862 | 4,137 | 3,396 | 3,597 | 1,240 | 1,430 | 1,968 | 1,870 | 1,629 | 1,847 |
| 2-year | 2,481 | 2,588 | 2,522 | 2,337 | 794 | 840 | 854 | 802 | 961 | 1,583 |
| Less than 2-year | 2,724 | 2,406 | 2,796 | 2,644 | 1,145 | 1,360 | 561 | (2) | (2) | 818 |
| Private, nonprofit | 6,813 | 7,535 | 4,193 | 4,582 | 2,336 | 2,235 | 3,482 | 3,914 | 2,540 | 2,868 |
| 4-year | 6,963 | 7,730 | 4,238 | 4,628 | 2,370 | 2,243 | 3,540 | 4,002 | 2,578 | 2,931 |
| 2-year | 4,667 | 4,834 | 3,556 | 3,687 | 1,760 | 2,036 | 2,143 | 1,637 | 1,559 | 1,958 |
| Less than 2-year | 4,975 | 5,741 | 3,740 | 5,125 | 2,615 | 2,512 | (2) | (2) | (2) | (2) |
| Private, for-profit | 4,767 | 5,041 | 4,346 | 4,489 | 2,295 | 2,227 | 2,514 | 1,615 | 3,635 | 2,990 |
| 2-years or more | 4,795 | 4,946 | 4,165 | 4,258 | 2,145 | 2,088 | 3,164 | 1,343 | 3,013 | 2,993 |
| Less than 2-year | 4,749 | 5,120 | 4,460 | 4,678 | 2,562 | 2,570 | 2,116 | 1,951 | 3,966 | 2,984 |
| | | | | | **Postbaccalaureate students** | | | | | |
| **Total** | **$11,645** | **$12,464** | **$8,408** | **$9,905** | **$4,078** | **$2,674** | **$7,875** | **$8,901** | **$5,412** | **$5,160** |
| Master's | 9,557 | 10,251 | 6,271 | 7,517 | 3,200 | 2,444 | 7,808 | 8,486 | 5,101 | 4,917 |
| Public | 8,627 | 9,088 | 5,693 | 6,205 | 2,892 | 2,064 | 7,444 | 7,991 | 3,989 | 3,623 |
| Private | 10,943 | 12,015 | 7,055 | 9,149 | 3,690 | (2) | 8,379 | 9,399 | 6,008 | 6,057 |
| Doctor's | 13,678 | 15,521 | 7,660 | 7,290 | 4,874 | 1,905 | 11,620 | 13,835 | 7,668 | 5,402 |
| Public | 11,947 | 12,940 | 7,201 | 6,274 | (2) | (2) | 9,673 | 11,317 | 7,446 | 4,829 |
| Private | 16,325 | 19,556 | 8,436 | 8,536 | (2) | (2) | 14,597 | 17,808 | 7,996 | 6,732 |
| First-professional | 12,942 | 13,994 | 9,709 | 12,068 | 4,358 | 3,025 | 5,291 | 4,864 | 4,891 | 5,253 |
| Public | 9,742 | 11,554 | 8,095 | 10,141 | 3,651 | 2,807 | 3,033 | 3,626 | 3,734 | 3,988 |
| Private | 14,562 | 15,725 | 10,532 | 13,463 | 4,682 | 3,302 | 6,176 | 5,766 | 5,506 | 5,847 |

[1] Data for undergraduates differ from previously published figures.

[2] Not shown; insufficient cases.

NOTE: At the postbaccalaureate level, private institutions include nonprofit and for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

## Table 56-3 Standard errors for estimated percentages in table 56-1

| | Any aid | | Federal | | State | | Institutional* | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 |
| | | | | | **Undergraduate students** | | | | | |
| **Total** | **0.7** | **0.8** | **0.7** | **0.8** | **0.6** | **0.8** | **0.8** | **0.7** | **0.3** | **0.4** |
| Public | 0.7 | 1.0 | 0.7 | 0.9 | 0.7 | 1.0 | 0.6 | 0.6 | 0.3 | 0.4 |
| 4-year | 0.8 | 1.1 | 0.8 | 1.0 | 0.9 | 1.2 | 0.6 | 0.7 | 0.3 | 0.5 |
| 2-year | 1.6 | 2.1 | 1.3 | 2.0 | 1.1 | 1.9 | 1.3 | 1.2 | 0.8 | 0.7 |
| Less than 2-year | 6.8 | 5.2 | 9.2 | 6.4 | 7.8 | 2.2 | 4.2 | 0.6 | 1.2 | 5.4 |
| Private, nonprofit | 0.9 | 1.2 | 1.2 | 1.2 | 1.3 | 1.5 | 1.4 | 1.4 | 0.7 | 0.7 |
| 4-year | 1.0 | 1.3 | 1.3 | 1.3 | 1.4 | 1.6 | 1.4 | 1.5 | 0.7 | 0.7 |
| 2-year | 3.6 | 3.3 | 4.2 | 3.1 | 3.4 | 4.0 | 4.2 | 4.1 | 1.7 | 2.8 |
| Less than 2-year | 12.7 | 3.7 | 11.7 | 4.7 | 10.3 | 8.8 | 1.6 | 1.3 | 3.6 | 2.9 |
| Private, for-profit | 1.4 | 1.2 | 1.8 | 1.4 | 1.7 | 1.5 | 0.8 | 1.4 | 1.1 | 0.6 |
| 2-year and above | 2.3 | 1.7 | 2.6 | 1.9 | 3.4 | 2.9 | 1.1 | 2.3 | 0.8 | 0.9 |
| Less than 2-year | 1.8 | 1.7 | 2.2 | 2.0 | 1.9 | 1.3 | 1.1 | 1.6 | 1.8 | 0.6 |
| | | | | | **Postbaccalaureate students** | | | | | |
| **Total** | **1.0** | **1.1** | **3.0** | **1.3** | **1.5** | **0.6** | **1.3** | **1.3** | **0.6** | **0.7** |
| Master's | 1.7 | 1.8 | 1.3 | 1.4 | 0.6 | 0.7 | 2.1 | 2.0 | 1.0 | 1.1 |
| Public | 2.4 | 2.3 | 1.8 | 1.5 | 1.0 | 1.1 | 2.6 | 2.5 | 1.4 | 1.0 |
| Private | 1.5 | 2.6 | 1.8 | 2.6 | 0.6 | 0.6 | 2.5 | 3.1 | 1.3 | 2.1 |
| Doctor's | 1.6 | 2.5 | 2.6 | 1.8 | 1.2 | 1.7 | 1.9 | 2.7 | 1.7 | 1.9 |
| Public | 2.2 | 3.3 | 4.0 | 2.2 | 2.1 | 2.5 | 2.6 | 3.4 | 2.1 | 2.6 |
| Private | 2.2 | 3.5 | 3.1 | 3.1 | 1.0 | 1.5 | 3.0 | 4.3 | 2.2 | 2.6 |
| First-professional | 1.4 | 1.2 | 2.5 | 1.5 | 2.4 | 1.2 | 3.0 | 1.5 | 0.8 | 1.2 |
| Public | 2.6 | 1.4 | 2.3 | 1.6 | 3.1 | 2.0 | 2.0 | 2.2 | 1.1 | 1.3 |
| Private | 1.5 | 1.8 | 3.3 | 2.3 | 3.2 | 1.3 | 3.4 | 2.0 | 1.0 | 1.9 |

*Data for undergraduates differ from previously published figures.

NOTE: At the postbaccalaureate level, private institutions include nonprofit and for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

## Table 56-4 Standard errors for estimated averages in table 56-2

| | Any aid | | Federal | | State | | Institutional[1] | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 | 1986 | 1989 |
| | | | | | **Undergraduate students** | | | | | |
| **Total** | **$84** | **$78** | **$44** | **$43** | **$44** | **$35** | **$103** | **$111** | **$70** | **$77** |
| Public | 63 | 63 | 52 | 53 | 34 | 39 | 84 | 78 | 64 | 81 |
| 4-year | 71 | 63 | 57 | 47 | 43 | 42 | 106 | 89 | 78 | 80 |
| 2-year | 97 | 92 | 98 | 84 | 44 | 40 | 71 | 66 | 114 | 193 |
| Less than 2-year | 414 | 465 | 291 | 260 | 123 | 225 | 309 | (2) | (2) | 476 |
| Private, nonprofit | 184 | 181 | 83 | 56 | 84 | 67 | 168 | 177 | 131 | 159 |
| 4-year | 194 | 194 | 88 | 58 | 89 | 71 | 174 | 182 | 137 | 170 |
| 2-year | 317 | 267 | 166 | 198 | 148 | 124 | 440 | 167 | 302 | 231 |
| Less than 2-year | 253 | 444 | 251 | 430 | 359 | 697 | (2) | (2) | (2) | (2) |
| Private, for-profit | 82 | 118 | 75 | 103 | 98 | 150 | 332 | 249 | 432 | 192 |
| 2-years or more | 149 | 154 | 105 | 133 | 115 | 188 | 421 | 257 | 750 | 258 |
| Less than 2 year | 96 | 169 | 99 | 141 | 171 | 205 | 412 | 330 | 393 | 272 |
| | | | | | **Postbaccalaureate students** | | | | | |
| **Total** | **$604** | **$335** | **$435** | **$263** | **$211** | **$245** | **$326** | **$414** | **$359** | **$268** |
| Master's | 453 | 387 | 216 | 216 | 401 | 359 | 427 | 411 | 471 | 434 |
| Public | 443 | 414 | 259 | 187 | 542 | 352 | 430 | 506 | 651 | 510 |
| Private | 819 | 689 | 307 | 326 | 543 | (2) | 842 | 682 | 588 | 621 |
| Doctor's | 554 | 889 | 490 | 650 | 971 | 575 | 536 | 867 | 750 | 664 |
| Public | 592 | 737 | 658 | 432 | (2) | (2) | 504 | 668 | 1,172 | 863 |
| Private | 781 | 1,632 | 761 | 1,300 | (2) | (2) | 862 | 1,659 | 626 | 943 |
| First-professional | 1,135 | 389 | 468 | 381 | 202 | 278 | 625 | 262 | 523 | 315 |
| Public | 528 | 337 | 260 | 298 | 575 | 279 | 264 | 276 | 659 | 423 |
| Private | 1,238 | 570 | 447 | 565 | 235 | 530 | 544 | 371 | 656 | 434 |

[1] Data for undergraduates differ from previously published figures.

[2] Not shown; insufficient cases.

NOTE: At the postbaccalaureate level, private institutions include nonprofit and for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS), 1987 and 1990.

## Table 57-1 Students per full-time-equivalent public school staff member: Selected years ending 1950–91

| Year | Total staff | Classroom teachers [1] | Principals and assistant principals | Other instructional staff[2] | School district administrators[3] | Support staff[4] |
|---|---|---|---|---|---|---|
| 1950 | 19 | 27 | 582 | [5]3,985 | 746 | 83 |
| 1960 | 17 | 26 | 554 | [5]871 | 829 | 60 |
| 1970 | 14 | 23 | 503 | 255 | 698 | 45 |
| 1981 | 10 | 19 | 382 | 72 | 519 | 33 |
| 1985[6] | 10 | 18 | 315 | 98 | 601 | 30 |
| 1986[6] | 9 | 18 | 305 | 94 | 585 | 30 |
| 1987[6] | 9 | 18 | 302 | 89 | 533 | 30 |
| 1988[6] | 9 | 18 | 318 | 88 | 539 | 29 |
| 1989[6] | 9 | 17 | 317 | 84 | 580 | 30 |
| 1990[6] | 9 | 17 | 323 | 81 | 577 | 29 |
| 1991[6] | 9 | 17 | 324 | 78 | 558 | 30 |

[1] In 1950, includes a small number of teacher aides, librarians, guidance counselors, and psychological personnel. In 1960, includes a small number of teacher aides.

[2] Between 1960 and 1991, includes librarians and guidance counselors and others. Teacher aides were included from 1970 to 1991. Psychological personnel were included from 1950 to 1981, but since 1985 they were included with support staff.

[3] Includes intermediate district staff, school district superintendents, assistants to superintendents, and supervisors of instruction.

[4] Includes secretarial and clerical personnel, transportation staff, food service, plant operation and maintenance, health, and recreational and other staff. Since 1985, includes psychological personnel.

[5] Data not comparable to other years.

[6] Data not comparable with figures for school years ending prior to 1985.

NOTE: Some data have been revised from previously published figures. Because of variations in data collection instruments, some categories are only roughly comparable over time. Detail may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Statistics of State School Systems, Common Core of Data, and unpublished estimates. *Digest of Education Statistics*, 1992, tables 78 and 3.

## Table 58-1 Average annual and beginning salary (in contant 1992 dollars) of teachers in *public* elementary and secondary schools: Selected years 1960–1992

| School year ending | All teachers | Elementary teachers | Secondary teachers | Beginning teachers |
|---|---|---|---|---|
| 1960 | $23,850 | $22,991 | $25,192 | — |
| 1962 | 25,742 | 24,925 | 26,956 | — |
| 1964 | 27,271 | 26,407 | 28,504 | — |
| 1966 | 28,515 | 27,609 | 29,728 | — |
| 1968 | 30,624 | 29,737 | 31,733 | — |
| 1970 | 32,038 | 31,243 | 33,022 | — |
| 1971 | 32,733 | 31,860 | 33,792 | — |
| 1972 | 33,089 | 32,131 | 34,200 | — |
| 1973 | 33,345 | 32,424 | 34,436 | — |
| 1974 | 32,408 | 31,617 | 33,332 | — |
| 1975 | 31,534 | 30,703 | 32,507 | — |
| 1976 | 31,876 | 31,066 | 32,729 | $21,784 |
| 1977 | 31,922 | 31,049 | 32,931 | — |
| 1978 | 31,804 | 31,013 | 32,709 | — |
| 1979 | 30,788 | 30,069 | 31,644 | — |
| 1980 | 28,861 | 28,137 | 29,745 | 19,260 |
| 1981 | 28,577 | 27,906 | 29,383 | — |
| 1982 | 28,734 | 28,107 | 29,526 | 18,777 |
| 1983 | 29,582 | 28,913 | 30,434 | — |
| 1984 | 30,236 | 29,618 | 31,089 | 19,681 |
| 1985 | 31,305 | 30,775 | 32,084 | — |
| 1986 | 32,490 | 31,869 | 33,324 | 21,521 |
| 1987 | 33,512 | 32,859 | 34,363 | — |
| 1988 | 33,953 | 33,328 | 34,879 | 22,596 |
| 1989 | 34,230 | 33,599 | 34,995 | — |
| 1990 | 34,640 | 34,039 | 35,398 | 22,789 |
| 1991 | 34,549 | 33,933 | 35,390 | 22,779 |
| 1992 | 34,934 | 34,334 | 35,750 | 23,054 |

— Not available.

SOURCE: National Education Association, Estimates of State School Statistics, 1991–1992, (Copyright© 1992 by NEA. All rights reserved.); American Federation of Teachers, Survey & Analysis of Salary Trends 1992, September, 1992.

## Table 58-2 Average annual salaries of public teachers: 1981 and 1992, percentage increase 1981–1992, 1991 per capita personal income (in constant 1992 dollars)

| States and D. C. | All teachers 1980–81 | All teachers 1991–92 | Percent increase 1981–92 | 1991 per capita personal income |
|---|---|---|---|---|
| **50 states and D.C.** | **$28,577** | **$34,934** | **22.2** | **$19,371** |
| New England | 26,001 | 37,328 | 43.6 | 19,844 |
| Connecticut | 28,188 | 48,229 | 71.1 | 19,844 |
| Maine* | 22,665 | 30,553 | 34.8 | 17,568 |
| Massachusetts* | 30,292 | 37,820 | 24.9 | 23,244 |
| New Hampshire | 21,722 | 33,672 | 55.0 | 21,268 |
| Rhode Island | 32,073 | 39,993 | 24.7 | 19,125 |
| Vermont* | 21,065 | 33,703 | 60.0 | 18,016 |
| Mideast | 31,730 | 39,900 | 25.7 | 22,642 |
| Delaware | 29,485 | 35,071 | 18.9 | 20,657 |
| District of Columbia* | 37,060 | 40,274 | 8.7 | 24,809 |
| Maryland | 30,770 | 39,664 | 28.9 | 22,414 |
| New Jersey | 29,550 | 41,648 | 40.9 | 25,756 |
| New York | 34,540 | 43,991 | 27.4 | 22,796 |
| Pennsylvania | 28,975 | 38,753 | 33.7 | 19,418 |
| Southeast | 24,357 | 28,945 | 18.8 | 16,335 |
| Alabama | 24,626 | 27,362 | 11.1 | 15,803 |
| Arkansas | 21,497 | 27,579 | 28.3 | 14,976 |
| Florida | 24,952 | 31,540 | 26.4 | 19,166 |
| Georgia | 25,015 | 29,986 | 19.9 | 17,627 |
| Kentucky | 25,509 | 31,347 | 22.9 | 15,774 |
| Louisiana* | 26,816 | 26,811 | -0.0 | 15,372 |
| Mississippi | 21,083 | 24,737 | 17.3 | 13,545 |
| North Carolina | 25,684 | 29,778 | 15.9 | 16,894 |
| South Carolina | 23,246 | 28,636 | 23.2 | 15,653 |
| Tennessee | 24,485 | 29,054 | 18.7 | 16,572 |
| Virginia* | 25,161 | 32,731 | 30.1 | 20,278 |
| West Virginia | 24,210 | 27,780 | 14.7 | 14,361 |
| Great Lakes | 29,932 | 36,525 | 22.0 | 18,817 |
| Illinois | 31,461 | 37,081 | 17.9 | 21,139 |
| Indiana* | 27,947 | 34,765 | 24.4 | 17,478 |
| Michigan* | 34,357 | 41,316 | 20.3 | 18,962 |
| Ohio | 27,378 | 33,701 | 23.1 | 18,187 |
| Wisconsin | 28,517 | 35,760 | 25.4 | 18,319 |
| Plains | 24,757 | 28,415 | 14.8 | 17,880 |
| Iowa | 26,126 | 29,638 | 13.4 | 17,770 |
| Kansas | 24,699 | 29,541 | 19.6 | 18,791 |
| Minnesota | 28,792 | 34,210 | 18.8 | 19,396 |
| Missouri | 24,976 | 29,361 | 17.6 | 18,112 |
| Nebraska | 24,103 | 27,643 | 14.7 | 18,122 |
| North Dakota | 22,454 | 24,866 | 10.7 | 16,332 |
| South Dakota | 22,147 | 23,644 | 6.8 | 16,640 |
| Southwest | 26,008 | 28,848 | 10.9 | 16,338 |
| Arizona* | 27,859 | 31,668 | 13.7 | 16,649 |
| New Mexico | 27,229 | 26,641 | -2.2 | 15,069 |
| Oklahoma | 23,472 | 26,915 | 14.7 | 16,067 |
| Texas | 25,473 | 30,169 | 18.4 | 17,567 |
| Rocky Mountains | 27,392 | 29,227 | 6.7 | 16,756 |
| Colorado* | 29,019 | 33,573 | 15.7 | 19,734 |
| Idaho | 24,471 | 26,744 | 9.3 | 15,634 |
| Montana | 25,839 | 28,008 | 8.4 | 16,286 |
| Utah | 27,313 | 26,925 | -1.4 | 14,749 |
| Wyoming | 30,316 | 30,886 | 1.9 | 17,377 |
| Far West | 34,536 | 38,014 | 10.1 | 20,370 |
| Alaska* | 47,047 | 44,463 | -5.5 | 22,264 |
| California | 33,573 | 41,037 | 22.2 | 21,269 |
| Hawaii | 34,250 | 35,010 | 2.2 | 21,629 |
| Nevada | 28,667 | 37,549 | 31.0 | 19,465 |
| Oregon* | 29,229 | 34,617 | 18.4 | 17,858 |
| Washington | 34,446 | 35,408 | 2.8 | 19,736 |

*Estimated.

SOURCE: National Education Association, Estimates of State School Statistics, 1991–1992 (Copyright© 1992 by NEA. All rights reserved.).

### Table 58-3 Average amounts of compensation (in current dollars) that full-time *public* school teachers received, by selected school characteristics: 1990–91

| | Average amount teachers received | | | | | |
|---|---|---|---|---|---|---|
| | Total earnings | Base salary | Other school year compensation | Summer supplemental | Non-school income | Other earned income |
| **Total** | **33,578** | **31,296** | **1,942** | **1,993** | **4,404** | **1,754** |
| Central City | 34,571 | 32,202 | 1,918 | 2,283 | 4,555 | 1,978 |
| School level | | | | | | |
| Elementary | 33,119 | 31,234 | 1,358 | 2,127 | 4,346 | 1,999 |
| Secondary | 37,228 | 33,960 | 2,475 | 2,450 | 4,896 | 1,975 |
| Combined | 36,693 | 33,794 | 2,853 | 2,915 | 3,899 | 1,534 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 33,163 | 30,815 | 2,010 | 1,930 | 4,100 | 1,751 |
| 20 percent or more | 34,984 | 32,610 | 1,885 | 2,361 | 4,711 | 2,052 |
| School size | | | | | | |
| Less than 150 | 31,098 | 29,288 | 1,787 | 2,277 | 2,534 | 1,333 |
| 150 to 499 | 32,386 | 30,607 | 1,429 | 2,097 | 4,355 | 1,644 |
| 500 to 749 | 33,450 | 31,438 | 1,403 | 2,197 | 4,377 | 1,956 |
| 750 or more | 36,434 | 33,544 | 2,296 | 2,393 | 4,775 | 2,154 |
| Urban fringe/large town | 37,238 | 34,935 | 2,019 | 1,935 | 4,350 | 1,918 |
| School level | | | | | | |
| Elementary | 35,312 | 33,776 | 1,284 | 1,705 | 3,536 | 2,005 |
| Secondary | 40,042 | 36,605 | 2,594 | 2,170 | 4,937 | 1,833 |
| Combined | 40,990 | 37,418 | 2,783 | 2,477 | 8,896 | 1,294 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 37,496 | 35,303 | 2,056 | 1,675 | 3,952 | 1,752 |
| 20 percent or more | 36,924 | 34,487 | 1,970 | 2,194 | 4,859 | 2,143 |
| School size | | | | | | |
| Less than 150 | 32,825 | 30,459 | 2,266 | 2,838 | 4,432 | — |
| 150 to 499 | 36,773 | 35,103 | 1,607 | 1,564 | 4,292 | 1,616 |
| 500 to 749 | 35,572 | 33,786 | 1,485 | 1,840 | 3,709 | 1,700 |
| 750 or more | 38,658 | 35,638 | 2,427 | 2,108 | 4,684 | 2,129 |
| Rural/small town | 29,931 | 27,748 | 1,913 | 1,740 | 4,267 | 1,530 |
| School level | | | | | | |
| Elementary | 28,993 | 27,494 | 1,582 | 1,482 | 3,738 | 1,407 |
| Secondary | 31,573 | 28,351 | 2,164 | 1,997 | 4,830 | 1,724 |
| Combined | 28,892 | 26,552 | 1,844 | 1,914 | 3,873 | 1,606 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 30,547 | 28,258 | 1,929 | 1,661 | 4,313 | 1,527 |
| 20 percent or more | 28,479 | 26,544 | 1,862 | 1,915 | 4,135 | 1,537 |
| School size | | | | | | |
| Less than 150 | 25,964 | 23,617 | 1,978 | 1,678 | 3,602 | 1,390 |
| 150 to 499 | 28,926 | 26,818 | 1,861 | 1,684 | 4,278 | 1,606 |
| 500 to 749 | 30,697 | 28,736 | 1,767 | 1,728 | 4,216 | 1,379 |
| 750 or more | 32,103 | 29,545 | 2,125 | 1,863 | 4,506 | 1,584 |

—Too few cases for reliable estimate.

NOTE: The averages were computed using only teachers with that type of compensation; consequently, the average in total earnings does not equal the sum of the averages for the various types of compensation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990–91 (School, Administrator, and Teacher Questionnaires).

## Table 58-4 Average amounts of compensation (in current dollars) that full-time *private* school teachers received, by selected school characteristics: 1990–91

| | Average amount teachers received | | | | | |
|---|---|---|---|---|---|---|
| | Total earnings | Base salary | Other school year compensation | Summer supplemental | Non-school income | Other earned income |
| **Total** | **$21,673** | **$19,783** | **$1,712** | **$1,864** | **$3,302** | **$1,146** |
| Central City | 22,446 | 20,402 | 1,685 | 1,791 | 3,481 | 1,199 |
| School level | | | | | | |
| Elementary | 19,764 | 18,237 | 1,466 | 1,607 | 3,405 | 1,018 |
| Secondary | 26,900 | 24,162 | 1,824 | 1,954 | 3,886 | 1,832 |
| Combined | 23,047 | 20,739 | 1,629 | 1,869 | 3,249 | 1,018 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 22,290 | 20,363 | 1,639 | 1,629 | 3,227 | 1,337 |
| 20 percent or more | 22,705 | 20,465 | 1,774 | 2,013 | 3,921 | 1,029 |
| School size | | | | | | |
| Less than 150 | 19,219 | 17,528 | 1,727 | 1,975 | 3,050 | 612 |
| 150 to 499 | 21,010 | 19,197 | 1,412 | 1,837 | 3,283 | 1,248 |
| 500 to 749 | 24,260 | 22,066 | 1,888 | 1,607 | 3,578 | 701 |
| 750 or more | 28,193 | 25,239 | 1,900 | 1,690 | 4,520 | 2,000 |
| Urban fringe/large town | 22,221 | 20,412 | 1,794 | 2,024 | 3,217 | 926 |
| School level | | | | | | |
| Elementary | 19,413 | 18,197 | 1,872 | 1,661 | 2,463 | 805 |
| Secondary | 26,260 | 23,345 | 1,962 | 2,077 | 4,397 | 957 |
| Combined | 24,610 | 22,400 | 1,621 | 2,364 | 3,612 | 1,097 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 21,358 | 19,621 | 1,871 | 1,860 | 3,225 | 872 |
| 20 percent or more | 24,272 | 22,291 | 1,614 | 2,256 | 3,196 | 1,050 |
| School size | | | | | | |
| Less than 150 | 20,015 | 18,504 | 1,743 | 1,951 | 2,388 | 797 |
| 150 to 499 | 21,387 | 19,690 | 1,778 | 1,751 | 3,288 | 797 |
| 500 to 749 | 26,521 | 24,674 | 1,126 | — | 3,539 | — |
| 750 or more | 28,477 | 25,251 | 2,197 | — | 4,557 | — |
| Rural/small town | 19,101 | 17,412 | 1,559 | 1,637 | 3,108 | 1,259 |
| School level | | | | | | |
| Elementary | 17,857 | 16,678 | 1,372 | 1,744 | 2,527 | 1,126 |
| Secondary | 25,930 | 23,751 | 1,275 | 1,308 | 3,246 | 2,037 |
| Combined | 18,269 | 16,201 | 1,801 | 1,681 | 3,543 | 1,109 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 18,606 | 16,934 | 1,589 | 1,526 | 3,131 | 1,195 |
| 20 percent or more | 22,122 | 20,330 | — | 1,917 | 2,946 | — |
| School size | | | | | | |
| Less than 150 | 16,799 | 14,996 | 1,450 | 1,953 | 2,869 | 1,504 |
| 150 to 499 | 19,730 | 18,067 | 1,657 | 1,447 | 3,355 | 1,041 |
| 500 to 749 | 25,392 | 23,992 | — | — | — | — |
| 750 or more | — | — | — | — | — | — |

—Too few cases for a reliable estimate.

NOTE: The averages were computed using only teachers with that type of compensation; consequently, the average in total earnings does not equal the sum of the averages for the various types of compensation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990–91 (School, Administrator, and Teacher Questionnaires).

**Table 58-5** **Percentage of public districts and private schools with salary schedules, average scheduled salary (in current dollars) for full-time teachers by highest degree earned and years of teaching experience, percentage of schools without salary schedules, and average lowest and highest schedules: 1990–91**

| | Percent with salary schedules | Average schedules salary | | | | Schools without schedules | | |
|---|---|---|---|---|---|---|---|---|
| | | Bachelor's, no experience | Master's, no experience | Master's, 20 years experience | Highest step on schedule | Percent without schedules | Average lowest | Average highest |
| Public districts | 94.4 | $19,913 | $21,698 | $33,199 | $36,065 | 5.6 | $17,376 | $24,573 |
| Region | | | | | | | | |
| Northeast | 95.2 | 22,534 | 24,378 | 39,797 | 43,846 | 4.8 | — | — |
| Midwest | 91.1 | 18,755 | 20,598 | 31,402 | 33,794 | 8.9 | 15,933 | 18,733 |
| South | 98.7 | 18,903 | 20,154 | 28,901 | 31,382 | 1.3 | — | — |
| West | 95.0 | 20,568 | 22,801 | 34,809 | 37,798 | 5.0 | — | — |
| District size | | | | | | | | |
| Less than 1,000 | 90.3 | 19,001 | 20,649 | 30,557 | 32,478 | 9.7 | 17,058 | 23,187 |
| 1,000 to 4,999 | 98.9 | 20,691 | 22,570 | 35,644 | 39,269 | 1.1 | — | — |
| 5,000 to 9,999 | 99.8 | 21,486 | 23,601 | 37,384 | 41,960 | — | — | — |
| 10,000 or more | 99.9 | 21,829 | 23,961 | 37,728 | 42,842 | — | — | — |
| Minority enrollment | | | | | | | | |
| Less than 20 percent | 93.4 | 19,631 | 21,430 | 32,890 | 35,614 | 6.6 | 17,218 | 24,180 |
| 20 percent or more | 97.0 | 20,731 | 22,480 | 34,127 | 37,416 | 3.0 | — | — |
| Minority teachers | | | | | | | | |
| Less than 10 percent | 93.6 | 19,798 | 21,581 | 33,143 | 35,896 | 6.4 | 17,347 | 23,409 |
| 20 percent or more | 98.2 | 20,512 | 22,301 | 33,488 | 36,937 | 1.8 | — | — |
| Private Schools | 67.7 | 15,141 | 16,511 | 23,253 | 25,499 | 32.3 | 12,618 | 19,384 |
| Region | | | | | | | | |
| Northeast | 72.5 | 15,101 | 16,239 | 23,748 | 26,208 | 27.5 | 13,171 | 21,765 |
| Midwest | 70.2 | 14,637 | 15,879 | 22,821 | 25,403 | 29.8 | 10,327 | 15,407 |
| South | 60.8 | 14,592 | 15,961 | 22,016 | 23,637 | 39.2 | 11,867 | 18,941 |
| West | 67.3 | 16,565 | 18,400 | 24,710 | 26,880 | 32.7 | 15,987 | 22,607 |
| School size | | | | | | | | |
| Less than 150 | 50.7 | 14,798 | 16,163 | 21,718 | 24,147 | 49.3 | 11,907 | 17,417 |
| 150 to 499 | 86.9 | 15,092 | 16,478 | 23,626 | 25,613 | 13.1 | 14,705 | 24,726 |
| 500 to 749 | 84.4 | 16,648 | 17,912 | 26,966 | 29,639 | 15.6 | 17,959 | 35,601 |
| 750 or more | 89.5 | 17,725 | 19,115 | 30,255 | 33,765 | 10.5 | — | — |
| Minority enrollment | | | | | | | | |
| Less than 20 percent | 66.1 | 14,568 | 15,776 | 22,474 | 24,715 | 33.9 | 11,994 | 18,719 |
| 20 percent or more | 71.3 | 16,313 | 18,017 | 24,848 | 27,104 | 28.7 | 14,213 | 21,125 |
| Minority teachers | | | | | | | | |
| Less than 10 percent | 66.7 | 14,836 | 16,160 | 22,936 | 25,145 | 33.3 | 12,369 | 18,931 |
| 20 percent or more | 71.5 | 16,261 | 17,805 | 24,420 | 26,802 | 28.5 | 13,730 | 21,408 |

—Too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990–91 (Private School and Teacher Demand and Shortage Questionnaires).

## Table 58-6 Standard errors for estimated numbers in table 58-3

| | Average amount teachers received | | | | | |
|---|---|---|---|---|---|---|
| | Total earnings | Base salary | Other school year compensation | Summer supplemental | Non-school income | Other earned income |
| **Total** | | | | | | |
| Public | 102 | 98 | 30 | 33 | 87 | 46 |
| Central City | 165 | 146 | 61 | 74 | 193 | 76 |
| School level | | | | | | |
| Elementary | 233 | 197 | 87 | 102 | 335 | 100 |
| Secondary | 346 | 312 | 72 | 82 | 203 | 129 |
| Combined | 887 | 747 | 457 | 191 | 374 | 246 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 324 | 327 | 104 | 101 | 346 | 109 |
| 20 percent or more | 208 | 183 | 82 | 90 | 245 | 88 |
| School size | | | | | | |
| Less than 150 | 623 | 553 | 435 | 371 | 655 | 227 |
| 150 to 499 | 349 | 284 | 115 | 130 | 562 | 144 |
| 500 to 749 | 403 | 384 | 100 | 173 | 466 | 155 |
| 750 or more | 325 | 298 | 80 | 87 | 276 | 97 |
| Urban fringe/large town | 205 | 203 | 64 | 63 | 229 | 121 |
| School level | | | | | | |
| Elementary | 277 | 276 | 77 | 95 | 234 | 196 |
| Secondary | 308 | 285 | 86 | 88 | 256 | 127 |
| Combined | 3,011 | 2,780 | 329 | 273 | 4,073 | 544 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 265 | 245 | 77 | 73 | 165 | 128 |
| 20 percent or more | 424 | 389 | 107 | 107 | 467 | 240 |
| School size | | | | | | |
| Less than 150 | 768 | 649 | 375 | 392 | 784 | — |
| 150 to 499 | 617 | 535 | 126 | 111 | 762 | 227 |
| 500 to 749 | 533 | 548 | 111 | 148 | 310 | 173 |
| 750 or more | 347 | 323 | 88 | 81 | 254 | 210 |
| Rural/small town | 121 | 112 | 40 | 47 | 112 | 47 |
| School level | | | | | | |
| Elementary | 186 | 169 | 67 | 72 | 204 | 66 |
| Secondary | 176 | 162 | 47 | 64 | 127 | 72 |
| Combined | 411 | 397 | 97 | 135 | 254 | 164 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 163 | 157 | 46 | 52 | 131 | 61 |
| 20 percent or more | 221 | 185 | 74 | 113 | 272 | 93 |
| School size | | | | | | |
| Less than 150 | 338 | 344 | 95 | 165 | 464 | 148 |
| 150 to 499 | 196 | 179 | 62 | 85 | 173 | 81 |
| 500 to 749 | 228 | 209 | 75 | 94 | 195 | 113 |
| 750 or more | 299 | 279 | 88 | 84 | 253 | 101 |

—Too few responses in this category for an accurate estimate of a standard error.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990–91 (School, Administrator, and Teacher Questionnaires).

## Table 58-7 Standard errors for estimated numbers in table 58-4

| | Average amount teachers received | | | | | |
|---|---|---|---|---|---|---|
| | Total earnings | Base salary | Other school year compensation | Summer supplemental | Non-school income | Other earned income |
| Private | | | | | | |
| Central City | 361 | 316 | 127 | 107 | 216 | 203 |
| School level | | | | | | |
| Elementary | 414 | 399 | 278 | 144 | 272 | 248 |
| Secondary | 606 | 530 | 127 | 176 | 271 | 472 |
| Combined | 767 | 569 | 254 | 202 | 439 | 305 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 446 | 420 | 149 | 123 | 258 | 283 |
| 20 percent or more | 489 | 422 | 160 | 137 | 335 | 237 |
| School size | | | | | | |
| Less than 150 | 591 | 517 | 442 | 334 | 489 | 169 |
| 150 to 499 | 466 | 430 | 169 | 134 | 231 | 290 |
| 500 to 749 | 578 | 498 | 344 | 215 | 388 | 97 |
| 750 or more | 1,008 | 801 | 173 | 177 | 821 | 627 |
| Urban fringe/large town | 444 | 399 | 162 | 195 | 262 | 181 |
| School level | | | | | | |
| Elementary | 379 | 350 | 472 | 220 | 177 | 203 |
| Secondary | 760 | 661 | 222 | 342 | 649 | 377 |
| Combined | 821 | 782 | 243 | 415 | 612 | 455 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 444 | 424 | 227 | 197 | 306 | 216 |
| 20 percent or more | 903 | 799 | 310 | 368 | 506 | 406 |
| School size | | | | | | |
| Less than 150 | 674 | 644 | 337 | 196 | 348 | 257 |
| 150 to 499 | 547 | 460 | 308 | 161 | 389 | 215 |
| 500 to 749 | 996 | 982 | 161 | — | 744 | — |
| 750 or more | 2,039 | 1,893 | 291 | — | 836 | — |
| Rural/small town | 467 | 450 | 249 | 279 | 293 | 286 |
| School level | | | | | | |
| Elementary | 721 | 707 | 380 | 586 | 297 | 343 |
| Secondary | 1,105 | 1,106 | 248 | 224 | 460 | 547 |
| Combined | 823 | 634 | 475 | 366 | 591 | 530 |
| Minority enrollment | | | | | | |
| Less than 20 percent | 472 | 442 | 278 | 306 | 296 | 328 |
| 20 percent or more | 1,579 | 1,538 | — | 574 | 936 | — |
| School size | | | | | | |
| Less than 150 | 615 | 516 | 425 | 385 | 540 | 621 |
| 150 to 499 | 570 | 515 | 394 | 405 | 371 | 248 |
| 500 to 749 | 2,885 | 2,866 | — | — | — | — |
| 750 or more | — | — | — | — | — | — |

—Too few responses in this category for an accurate estimate of a standard error.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990-91 (School, Administrator, and Teacher Questionnaires).

## Table 58-8 Standard errors for estimated numbers and percentages in table 58-5

| | Percent with salary schedules | Average schedules salary | | | | Schools without schedules | | |
|---|---|---|---|---|---|---|---|---|
| | | Bachelor's, no experience | Master's, no experience | Master's, 20 years experience | Highest step on schedule | Percent without schedules | Average lowest | Average highest |
| Public Districts | 0.7 | 59 | 74 | 125 | 161 | 0.7 | 459 | 1460 |
| Region | | | | | | | | |
| Northeast | 1.2 | 77 | 100 | 231 | 263 | 1.2 | — | — |
| Midwest | 1.3 | 101 | 117 | 243 | 267 | 1.3 | 491 | 905 |
| South | 0.5 | 68 | 78 | 82 | 85 | 0.5 | — | — |
| West | 1.6 | 135 | 203 | 263 | 351 | 1.6 | — | — |
| District size | | | | | | | | |
| Less than 1,000 | 1.3 | 105 | 117 | 187 | 201 | 1.3 | 479 | 1,511 |
| 1,000 to 4,999 | 0.3 | 72 | 81 | 174 | 204 | 0.3 | — | — |
| 5,000 to 9,999 | 0.3 | 175 | 215 | 405 | 445 | — | — | — |
| 10,000 or more | 0.1 | 156 | 199 | 302 | 355 | — | — | — |
| Minority enrollment | | | | | | | | |
| Less than 20 percent | 0.9 | 71 | 84 | 152 | 185 | 0.9 | 505 | 1,686 |
| 20 percent or more | 1.2 | 101 | 129 | 237 | 308 | 1.2 | — | — |
| Minority teachers | | | | | | | | |
| Less than 10 percent | 0.8 | 67 | 82 | 149 | 177 | 0.8 | 481 | 1190 |
| 20 percent or more | 1.1 | 193 | 229 | 364 | 431 | 1.1 | — | — |
| Private Schools | | | | | | | | |
| Region | | | | | | | | |
| Northeast | 2.0 | 297 | 316 | 666 | 546 | 2.0 | 723 | 1,272 |
| Midwest | 2.9 | 134 | 152 | 217 | 534 | 2.9 | 848 | 1,070 |
| South | 2.7 | 151 | 160 | 337 | 371 | 2.7 | 516 | 832 |
| West | 3.2 | 473 | 499 | 640 | 740 | 3.2 | 1,046 | 1,413 |
| School size | | | | | | | | |
| Less than 150 | 2.3 | 266 | 299 | 443 | 564 | 2.3 | 468 | 574 |
| 150 to 499 | 1.0 | 111 | 119 | 177 | 217 | 1.0 | 280 | 728 |
| 500 to 749 | 3.0 | 268 | 319 | 465 | 576 | 3.0 | 773 | 2,192 |
| 750 or more | 2.3 | 298 | 344 | 639 | 785 | 2.3 | — | — |
| Minority enrollment | | | | | | | | |
| Less than 20 percent | 1.8 | 150 | 168 | 252 | 368 | 1.8 | 413 | 557 |
| 20 percent or more | 2.8 | 183 | 195 | 297 | 364 | 2.8 | 905 | 1,018 |
| Minority teachers | | | | | | | | |
| Less than 10 percent | 1.5 | 149 | 167 | 252 | 330 | 1.5 | 426 | 542 |
| 20 percent or more | 2.8 | 218 | 256 | 387 | 464 | 2.8 | 735 | 1,289 |

—Too few responses in this category for an accurate estimate of a standard error.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1990-91 (Private School and Teacher Demand and Shortage Questionnaires).

## Table 59-1 Average salaries in constant (1992) dollars of full-time faculty in institutions of higher education, by academic rank and control and type of institution: Academic years ending 1972–91

| Year | All institutions | | | Public institutions | | | Private institutions | | |
|---|---|---|---|---|---|---|---|---|---|
| | Professor | Associate professor | Assistant professor | Professor | Associate professor | Assistant professor | Professor | Associate professor | Assistant professor |
| | | | | **All institutions** | | | | | |
| 1972 | $61,589 | $46,639 | $38,551 | $62,215 | $47,467 | $39,224 | $60,356 | $44,779 | $36,985 |
| 1973 | 60,614 | 46,047 | 38,011 | 61,444 | 47,083 | 38,819 | 58,986 | 43,746 | 36,156 |
| 1975 | 55,452 | 42,059 | 34,658 | 56,284 | 43,214 | 35,612 | 53,723 | 39,336 | 32,436 |
| 1976 | 55,750 | 41,982 | 34,437 | 56,588 | 43,148 | 35,376 | 54,073 | 39,254 | 32,343 |
| 1977 | 55,083 | 41,453 | 33,945 | 55,777 | 42,497 | 34,795 | 53,601 | 38,874 | 32,003 |
| 1978 | 54,082 | 40,857 | 33,418 | 54,857 | 41,926 | 34,335 | 52,374 | 38,133 | 31,283 |
| 1979 | 51,153 | 38,741 | 31,643 | 51,774 | 39,740 | 32,526 | 49,725 | 36,177 | 29,600 |
| 1980 | 48,335 | 36,524 | 29,737 | 49,013 | 37,529 | 30,624 | 46,766 | 34,019 | 27,759 |
| 1981 | 47,466 | 35,830 | 29,173 | 47,966 | 36,691 | 29,991 | 46,294 | 33,698 | 27,423 |
| 1982 | 48,762 | 36,818 | 29,991 | 48,976 | 37,567 | 30,783 | 48,250 | 34,935 | 28,317 |
| 1983 | 50,063 | 37,922 | 31,069 | 49,968 | 38,521 | 31,748 | 50,290 | 36,450 | 29,657 |
| 1985 | 51,821 | 39,045 | 32,165 | 51,531 | 39,580 | 32,800 | 52,522 | 37,765 | 30,858 |
| 1986 | 54,108 | 40,691 | 33,638 | 54,184 | 41,433 | 34,501 | 53,916 | 38,915 | 31,863 |
| 1988 | 55,795 | 41,784 | 34,522 | 55,854 | 42,689 | 35,407 | 55,713 | 39,902 | 32,549 |
| 1990 | 56,689 | 42,285 | 35,090 | 56,748 | 43,138 | 35,948 | 56,561 | 40,595 | 33,570 |
| 1991 | 57,199 | 42,634 | 35,456 | 57,026 | 43,358 | 36,186 | 57,576 | 41,127 | 34,084 |
| | | | | **4-year institutions** | | | | | |
| 1972 | $62,012 | $46,671 | $38,517 | $62,759 | $47,502 | $39,198 | $60,599 | $44,941 | $37,088 |
| 1973 | 61,059 | 46,015 | 37,877 | 62,049 | 47,071 | 38,688 | 59,246 | 43,876 | 36,237 |
| 1975 | 55,841 | 41,924 | 34,411 | 56,845 | 43,098 | 35,359 | 53,919 | 39,460 | 32,534 |
| 1976 | 56,165 | 41,963 | 34,362 | 57,156 | 43,207 | 35,366 | 54,320 | 39,380 | 32,443 |
| 1977 | 55,384 | 41,439 | 33,892 | 56,194 | 42,572 | 34,813 | 53,749 | 38,953 | 32,077 |
| 1978 | 54,351 | 40,820 | 33,270 | 55,231 | 41,982 | 34,244 | 52,533 | 38,217 | 31,352 |
| 1979 | 51,453 | 38,747 | 31,533 | 52,189 | 39,846 | 32,476 | 49,864 | 36,265 | 29,681 |
| 1980 | 48,676 | 36,555 | 29,645 | 49,492 | 37,683 | 30,599 | 46,919 | 34,099 | 27,837 |
| 1981 | 47,871 | 35,908 | 29,120 | 48,529 | 36,886 | 30,009 | 46,441 | 33,781 | 27,499 |
| 1982 | 49,182 | 36,895 | 29,952 | 49,548 | 37,765 | 30,824 | 48,369 | 34,995 | 28,389 |
| 1983 | 50,555 | 38,052 | 31,068 | 50,595 | 38,753 | 31,818 | 50,468 | 36,553 | 29,748 |
| 1985 | 52,481 | 39,236 | 32,247 | 52,385 | 39,892 | 32,972 | 52,690 | 37,877 | 30,977 |
| 1986 | 54,792 | 40,886 | 33,712 | 55,101 | 41,786 | 34,691 | 54,098 | 39,026 | 31,987 |
| 1988 | 56,523 | 41,982 | 34,641 | 56,828 | 43,017 | 35,623 | 55,890 | 40,012 | 33,020 |
| 1990 | 57,452 | 42,577 | 35,237 | 57,827 | 43,650 | 36,234 | 56,740 | 40,706 | 33,669 |
| 1991 | 58,171 | 43,042 | 35,684 | 58,364 | 44,018 | 36,580 | 57,796 | 41,270 | 34,208 |
| | | | | **2-year institutions** | | | | | |
| 1972 | $49,561 | $46,183 | $38,921 | $51,075 | $47,105 | $39,428 | $34,625 | $34,384 | $31,151 |
| 1973 | 52,663 | 46,435 | 39,232 | 53,971 | 47,174 | 39,673 | 33,792 | 34,993 | 31,381 |
| 1975 | 49,495 | 43,398 | 36,405 | 50,362 | 44,041 | 36,864 | 32,545 | 31,711 | 27,786 |
| 1976 | 48,748 | 42,163 | 35,010 | 49,941 | 42,743 | 35,430 | 30,578 | 31,108 | 27,352 |
| 1977 | 48,600 | 41,585 | 34,369 | 49,441 | 41,949 | 34,688 | 32,850 | 32,315 | 27,757 |
| 1978 | 49,107 | 41,197 | 34,477 | 49,970 | 41,550 | 34,767 | 30,429 | 31,036 | 26,775 |
| 1979 | 45,841 | 38,695 | 32,445 | 46,502 | 39,046 | 32,777 | 30,526 | 29,393 | 24,867 |
| 1980 | 42,739 | 36,253 | 30,422 | 43,394 | 36,561 | 30,750 | 28,186 | 27,553 | 23,131 |
| 1981 | 40,945 | 35,114 | 29,582 | 41,488 | 35,418 | 29,897 | 28,778 | 27,296 | 22,632 |
| 1982 | 42,440 | 36,131 | 30,289 | 42,824 | 36,334 | 30,578 | 31,119 | 29,241 | 23,656 |
| 1983 | 43,217 | 36,809 | 31,072 | 43,749 | 37,116 | 31,398 | 29,340 | 27,735 | 24,178 |
| 1985 | 43,679 | 37,422 | 31,524 | 44,078 | 37,731 | 31,910 | 30,746 | 27,873 | 24,044 |
| 1986 | 46,181 | 39,022 | 33,056 | 46,619 | 39,342 | 33,490 | 31,386 | 28,536 | 24,702 |
| 1988 | 46,443 | 40,118 | 33,526 | 46,781 | 40,214 | 33,824 | 31,778 | 28,715 | 25,388 |
| 1990 | 47,176 | 39,305 | 33,524 | 47,655 | 39,694 | 33,958 | 32,706 | 28,303 | 26,609 |
| 1991 | 46,273 | 38,770 | 33,221 | 46,779 | 39,185 | 33,654 | 30,424 | 27,230 | 25,322 |

NOTE: Salaries are for full-time instructional faculty on 9- or 10-month contracts. Data for academic years ending 1988 and 1990 include imputations for nonresponding institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1992 and earlier editions (based on IPEDS/HEGIS surveys of faculty salaries).

## Table 60-1 Percentage of all 1985–86 bachelor's degree recipients and those recipients teaching full-time one year after graduation who took one or more undergraduate courses in different subjects

| Subject | All degree recipients | Degree recipients teaching full-time one year after graduation by primary field of teaching* | | | | |
|---|---|---|---|---|---|---|
| | | All full-time teachers | Humanities and social science teachers | Science and math teachers | General education teachers | Other education teachers |
| **Number** | **909,368** | **44,731** | **7,390** | **5,809** | **19,042** | **7,552** |
| Humanities | 94.8 | 97.1 | 98.7 | 95.0 | 96.7 | 98.8 |
| Arts | 63.1 | 80.9 | 82.0 | 67.8 | 84.7 | 78.2 |
| English literature/letters | 86.8 | 91.2 | 91.3 | 88.7 | 90.2 | 93.9 |
| Foreign language | 36.1 | 34.1 | 52.0 | 43.1 | 26.9 | 31.4 |
| Philosophy and religion | 52.6 | 45.4 | 44.8 | 49.4 | 43.7 | 47.1 |
| Area and ethnic studies | 9.0 | 5.9 | 7.7 | 3.9 | 7.6 | 4.1 |
| Social/behavioral sciences | 95.1 | 95.1 | 95.7 | 97.7 | 93.0 | 97.2 |
| Psychology | 65.3 | 75.1 | 66.6 | 76.9 | 75.4 | 80.7 |
| Social sciences | 92.5 | 92.1 | 89.9 | 94.7 | 90.2 | 96.4 |
| Economics | 52.8 | 23.0 | 23.6 | 30.8 | 20.0 | 15.2 |
| Geography | 14.2 | 26.0 | 20.7 | 19.2 | 33.7 | 19.6 |
| Political science | 40.6 | 43.0 | 51.6 | 43.0 | 40.8 | 39.2 |
| Sociology/anthropology | 61.0 | 64.4 | 55.3 | 66.9 | 66.2 | 68.1 |
| History | 63.2 | 75.1 | 77.5 | 75.0 | 75.5 | 71.2 |
| Social science, other | 15.6 | 13.9 | 14.4 | 8.9 | 14.1 | 16.6 |
| Natural sciences | 91.7 | 92.5 | 90.1 | 99.4 | 91.9 | 91.6 |
| Life sciences | 52.9 | 68.7 | 66.4 | 73.4 | 67.3 | 71.7 |
| Physical sciences | 66.9 | 67.2 | 63.3 | 78.7 | 69.1 | 56.9 |
| Mathematics | 78.1 | 77.2 | 65.9 | 94.3 | 76.1 | 73.1 |
| Calculus | 37.7 | 15.8 | 9.8 | 56.3 | 8.0 | 10.1 |
| Other mathematics | 70.2 | 74.4 | 64.5 | 86.4 | 74.5 | 69.2 |
| Computer sciences and engineering | 50.7 | 29.7 | 24.5 | 59.4 | 24.9 | 23.3 |
| Computer science | 42.1 | 25.8 | 19.1 | 55.5 | 20.7 | 21.4 |
| Engineering | 17.7 | 6.9 | 5.4 | 11.3 | 5.7 | 6.7 |
| Technical/professional | 89.3 | 98.9 | 98.4 | 97.7 | 99.8 | 97.5 |
| Education | 36.3 | 95.5 | 92.6 | 94.2 | 98.0 | 96.0 |
| Business and management | 53.7 | 17.7 | 16.3 | 19.0 | 15.9 | 15.1 |
| Other technical/professional | 68.2 | 65.1 | 56.5 | 60.9 | 67.2 | 68.8 |

*Humanities teachers are art, English, ESL, music, and foreign language teachers. General education teachers are pre-elementary and elementary education and reading teachers (9 out of 10 in this category are in elementary education). Teachers in the "other education teachers" category are special education (67 percent), physical education (23 percent), bilingual education (4 percent), and vocational education (6 percent) teachers. The vocational education teachers in this group report vocatioal education, not a specific subject matter as their teaching field. Teachers with missing (2,460 teachers) or unspecified (1,032 teachers) fields and those reporting business, computer science, health, home economics, or industrial arts as their teaching field (1,445 teachers) are included in the "all teachers" column but are not shown separately.

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 60-2 Average undergraduate credit hours earned in different subjects by all 1985–86 bachelor's degree recipients and by all recipients teaching full-time one year after graduation

| Subject | All degree recipients | Degree recipients teaching full-time one year after graduation by primary field of teaching[1] | | | | |
|---|---|---|---|---|---|---|
| | | All full-time teachers | Humanities and social science teachers | Science and math teachers | General education teachers | Other education teachers |
| **Total Number** | **909,368** | **44,731** | **7,390** | **5,809** | **19,042** | **7,552** |
| **Total average credit hours[2]** | **121.8** | **128.1** | **128.5** | **139.8** | **122.1** | **130.3** |
| Humanities | 25.4 | 28.9 | 53.0 | 21.4 | 24.5 | 24.0 |
| Arts | 6.5 | 9.4 | 21.3 | 4.0 | 7.5 | 7.0 |
| English literature/letters | 10.2 | 12.5 | 19.3 | 10.0 | 11.7 | 10.6 |
| Foreign language | 3.7 | 3.6 | 8.3 | 3.9 | 2.1 | 3.4 |
| Philosophy and religion | 4.5 | 3.2 | 3.9 | 3.2 | 2.9 | 2.8 |
| Area and ethnic studies | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 |
| Social/behavioral sciences | 23.2 | 20.0 | 21.9 | 19.7 | 19.2 | 20.7 |
| Psychology | 5.5 | 5.9 | 4.8 | 5.2 | 5.7 | 8.1 |
| Social sciences | 17.7 | 14.0 | 17.1 | 14.6 | 13.5 | 12.6 |
| Economics | 4.5 | 1.0 | 1.1 | 1.4 | 0.8 | 0.9 |
| Geography | 0.7 | 1.1 | 1.0 | 1.2 | 1.4 | 0.8 |
| Political science | 2.9 | 2.0 | 3.2 | 1.9 | 1.7 | 1.7 |
| Sociology/ anthropology | 4.4 | 3.8 | 4.0 | 4.7 | 3.8 | 3.4 |
| History | 4.4 | 5.3 | 7.0 | 4.9 | 5.1 | 4.9 |
| Social science, other | 0.8 | 0.7 | 0.8 | 0.6 | 0.7 | 1.0 |
| Natural sciences | 21.9 | 18.1 | 11.1 | 45.7 | 13.9 | 13.2 |
| Life sciences | 5.5 | 5.4 | 3.7 | 12.1 | 4.0 | 5.0 |
| Physical sciences | 8.2 | 5.5 | 3.2 | 13.8 | 4.1 | 3.6 |
| Mathematics | 8.2 | 7.3 | 4.3 | 19.8 | 5.8 | 4.7 |
| Calculus | 2.9 | 1.4 | 0.6 | 6.5 | 0.4 | 0.6 |
| Other mathematics | 5.3 | 5.9 | 3.7 | 13.3 | 5.3 | 4.1 |
| Computer sciences and engineering | 10.3 | 1.7 | 0.9 | 4.0 | 1.1 | 1.0 |
| Computer science | 3.8 | 1.2 | 0.6 | 3.2 | 0.7 | 0.7 |
| Engineering | 6.4 | 0.6 | 0.3 | 0.9 | 0.4 | 0.3 |
| Technical/professional | 36.0 | 52.2 | 35.4 | 42.3 | 57.2 | 61.7 |
| Education | 5.9 | 42.9 | 29.4 | 31.8 | 49.0 | 51.3 |
| Business | 16.3 | 2.0 | 1.2 | 2.6 | 1.3 | 1.5 |
| Other technical/ professional | 13.9 | 7.3 | 4.8 | 8.0 | 6.9 | 8.9 |

[1] Humanities teachers are art, English, ESL, music, and foreign language teachers. General education teachers are pre-elementary and elementary education and reading teachers (9 out of 10 in this category are in elementary education). Teachers in the "other education teachers" category are special education (67 percent), physical education (23 percent), bilingual education (4 percent), and vocational education (6 percent) teachers. The vocational education teachers in this group report vocational education, not a specific subject matter as their teaching field. Teachers with missing (2,460 teachers) or unspecified (1,032 teachers) fields and those reporting business, computer science, health, home economics, or industrial arts as their teaching field (1,445 teachers) are included in the "all teachers" column but are not shown separately.

[2] Credit hours earned in basic skills and unclassified subjects are included in the total but are not shown separately.

NOTE: Average credit hours in a subject are computed for all students, both those who took courses in the subject and those who did not. This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses). Credit hours are standardized to the semester system.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 60-3 Standard errors for estimated percentages in table 60-1

| Subject | All degree recipients | Degree recipients teaching full-time one year after graduation by primary field of teaching* | | | | |
|---|---|---|---|---|---|---|
| | | All full-time teachers | Humanities and social science teachers | Science and math teachers | General education teachers | Other education teachers |
| Humanities | 0.4 | 0.4 | 0.1 | 1.6 | 0.7 | 0.4 |
| Arts | 1.2 | 0.8 | 1.7 | 2.4 | 1.0 | 1.7 |
| English literature/letters | 0.7 | 0.7 | 1.1 | 2.0 | 1.4 | 0.8 |
| Foreign language | 1.1 | 1.5 | 2.8 | 2.4 | 1.7 | 3.3 |
| Philosophy and religion | 1.3 | 2.0 | 3.0 | 2.5 | 2.4 | 3.2 |
| Area and ethnic studies | 0.8 | 0.6 | 1.3 | 1.4 | 0.6 | 0.5 |
| Social/behavioral sciences | 0.3 | 0.6 | 1.2 | 0.6 | 1.2 | 1.1 |
| Psychology | 0.9 | 0.9 | 2.1 | 1.8 | 1.5 | 1.7 |
| Social sciences | 0.6 | 0.7 | 1.3 | 1.0 | 1.4 | 1.1 |
| Economics | 1.1 | 1.1 | 2.1 | 2.5 | 1.8 | 2.0 |
| Geography | 0.6 | 1.2 | 1.7 | 2.0 | 2.0 | 1.9 |
| Political science | 1.1 | 1.9 | 3.0 | 2.7 | 2.3 | 2.8 |
| Sociology/anthropology | 0.9 | 1.5 | 2.4 | 2.8 | 2.1 | 2.8 |
| History | 1.0 | 1.1 | 2.3 | 2.0 | 1.6 | 1.9 |
| Social science, other | 1.1 | 1.5 | 2.2 | 1.9 | 1.9 | 2.1 |
| Natural sciences | 0.6 | 0.7 | 1.5 | 0.6 | 0.9 | 1.1 |
| Life sciences | 1.0 | 1.1 | 2.4 | 2.1 | 1.5 | 1.9 |
| Physical sciences | 1.2 | 1.1 | 2.7 | 2.0 | 1.8 | 2.7 |
| Mathematics | 1.0 | 1.2 | 2.1 | 1.9 | 1.8 | 2.0 |
| Calculus | 1.3 | 1.0 | 1.6 | 3.0 | 0.9 | 2.1 |
| Other mathematics | 1.0 | 1.2 | 2.1 | 1.4 | 1.8 | 2.0 |
| Computer sciences and engineering | 1.2 | 1.4 | 2.6 | 2.5 | 1.8 | 2.1 |
| Computer science | 1.1 | 1.2 | 2.5 | 2.5 | 1.3 | 2.0 |
| Engineering | 1.0 | 0.8 | 1.0 | 1.4 | 1.7 | 1.3 |
| Technical/professional | 0.7 | 0.3 | 0.1 | 1.6 | 0.0 | 0.7 |
| Education | 1.2 | 0.5 | 1.2 | 1.7 | 0.4 | 0.7 |
| Business | 1.0 | 0.8 | 1.7 | 2.4 | 1.2 | 1.7 |
| Other technical/professional | 1.1 | 1.5 | 2.6 | 3.3 | 2.0 | 2.9 |

*Humanities teachers are art, English, ESL, music, and foreign language teachers. General education teachers are pre-elementary and elementary education and reading teachers (9 out of 10 in this category are in elementary education). Teachers in the "other education teachers" category are special education (67 percent), physical education (23 percent), bilingual education (4 percent), and vocational education (6 percent) teachers. The vocational education teachers in this group report vocational education, not specific subject matter as their teaching field. Teachers with missing (2,460 teachers) or unspecified (1,032 teachers) fields and those reporting business, computer science, health, home economics, or industrial arts as their teaching field (1,445 teachers) are included in the "all teachers" column but are not shown separately.

NOTE: This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## Table 60-4 Standard errors for estimated credit hours in table 60-2

| Subject | All degree recipients | Degree recipients teaching full-time one year after graduation by primary field of teaching[1] | | | | |
|---|---|---|---|---|---|---|
| | | All full-time teachers | Humanities and social science teachers | Science and math teachers | General education teachers | Other education teachers |
| **Total average credit hours[2]** | **1.7** | **1.5** | **1.7** | **2.2** | **1.7** | **1.9** |
| Humanities | 0.8 | 0.7 | 1.6 | 0.8 | 0.8 | 0.7 |
| Arts | 0.2 | 0.4 | 0.9 | 0.5 | 0.4 | 0.3 |
| English literature/letters | 0.2 | 0.4 | 1.2 | 0.5 | 0.4 | 0.3 |
| Foreign language | 0.1 | 0.2 | 0.5 | 0.3 | 0.2 | 0.3 |
| Philosophy and religion | 0.7 | 0.2 | 0.4 | 0.2 | 0.3 | 0.4 |
| Area and ethnic studies | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| Social/behavioral sciences | 0.5 | 0.5 | 0.6 | 1.1 | 0.5 | 1.1 |
| Psychology | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.8 |
| Social sciences | 0.4 | 0.4 | 0.5 | 1.1 | 0.4 | 0.8 |
| Economics | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Geography | 0.0 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 |
| Political science | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 |
| Sociology/anthropology | 0.2 | 0.2 | 0.2 | 1.0 | 0.2 | 0.2 |
| History | 0.1 | 0.2 | 0.4 | 0.2 | 0.2 | 0.5 |
| Social science, other | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Natural sciences | 0.6 | 0.4 | 0.3 | 1.6 | 0.4 | 0.7 |
| Life sciences | 0.2 | 0.2 | 0.1 | 1.1 | 0.2 | 0.2 |
| Physical sciences | 0.3 | 0.2 | 0.2 | 0.8 | 0.1 | 0.3 |
| Mathematics | 0.2 | 0.2 | 0.2 | 0.9 | 0.2 | 0.3 |
| Calculus | 0.1 | 0.1 | 0.1 | 0.4 | 0.0 | 0.1 |
| Other mathematics | 0.2 | 0.2 | 0.2 | 0.6 | 0.2 | 0.3 |
| Computer sciences and engineering | 0.5 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 |
| Computer science | 0.2 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 |
| Engineering | 0.5 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 |
| Technical/professional | 0.8 | 0.8 | 0.9 | 1.8 | 1.0 | 1.6 |
| Education | 0.3 | 0.7 | 0.8 | 1.0 | 0.9 | 1.5 |
| Business | 0.5 | 0.2 | 0.2 | 0.5 | 0.2 | 0.1 |
| Other technical/professional | 0.5 | 0.3 | 0.5 | 1.4 | 0.4 | 0.6 |

[1] Humanities teachers are art, English, ESL, music, and foreign language teachers. General education teachers are pre-elementary and elementary education and reading teachers (9 out of 10 in this category are in elementary education). Teachers in the "other education teachers" category are special education (67 percent), physical education (23 percent), bilingual education (4 percent), and vocational education (6 percent) teachers. The vocational education teachers in this group report vocational education, not a specific subject matter as their teaching field. Teachers with missing (2,460 teachers) or unspecified (1,032 teachers) fields and those reporting business, computer science, health, home economics, or industrial arts as their teaching field (1,445 teachers) are included in the "all teachers" column but are not shown separately.

[2] Credit hours earned in basic skills and unclassified subjects are included in the total but are not shown separately.

NOTE: Average credit hours in a subject are computed for all students, both those who took courses in the subject and those who did not. This table only includes courses for which students received credit from the degree-granting institution (includes transfer courses). Credit hours are standardized to the semester system.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 Survey of Recent College Graduates, Transcript Data File.

## General Information

The information presented in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected using many research methods including surveys of a universe (such as all school districts) or of a sample, compilations of administrative records, and statistical projections. Users of *The Condition of Education* should take particular care when comparing data from different sources. Differences in procedures, timing, phrasing of questions, interviewer training, and so forth mean that the results are not strictly comparable. Following the general discussion of data accuracy below, descriptions of the information sources and data collection methods are presented, grouped by sponsoring organization. More extensive documentation of procedures used in one survey than in another does not imply more problems with the data, only that more information is available.

Unless otherwise noted, all comparisons cited in the text were tested for significance using t-tests and are significant at the .05 level. However, when multiple comparisons are cited, a Bonferroni adjustment to the significance level was made. When other tests were used, they are described in a note on the indicator page or in the supplemental note for the indicator.

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. In addition to such sampling errors, all surveys, both universe and sample, are subject to design, reporting, and processing errors and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

The estimated standard error of a statistic is a measure of the variation due to sampling and can be used to examine the precision obtained in a particular sample. The sample estimate and an estimate of its standard error permit the construction of interval estimates with prescribed confidence that the interval includes the average result of all possible samples. If all possible samples were selected, each of these surveyed under essentially the same conditions, and an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average value from all possible samples; 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average value of all possible samples; and 99 percent of all intervals from 2.5 standard errors below the estimate to 2.5 standard errors above the estimate would include the average value of all possible samples. These intervals are called 90 percent, 95 percent, and 99 percent confidence intervals, respectively.

To illustrate this further, consider the text table for indicator 1 and table 1-2 for estimates of standard errors from Census Current Population Surveys. For the 1991 estimate of the percentage of 3-year-olds enrolled in school (28.2 percent), supplemental table 1-2 shows a standard error of 1.2. Therefore, we can construct a 95 percent confidence interval from 30.6 to 25.8 (28.2 ± 2 x 1.2). If this procedure were followed for every possible sample, about 95 percent of the intervals would include the average for all possible samples.

Standard errors can help assess how valid a comparison between two estimates might be. The standard error of a difference between two sample estimates is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between sample estimate "a" and sample estimate "b" (if "a" and "b" are approximately independent) is:

$$se_{a-b}=\sqrt{se_a^2+se_b^2}$$

It should be noted that most of the standard errors presented in the indicators and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and that could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

The preceding discussion on sampling variability was directed toward a situation concerning one or two estimates. Determining the accuracy of statistical projections is more difficult. In general, the further away the projection date is from the date of the actual data being used for the projection, the greater the possible error in the projection. If, for instance, annual data from 1977 to 1990 are being used to project enrollment in elementary and secondary education, the further beyond 1990 one projects, the more variability in the projection. One will be less sure of the 1996 enrollment projection than of the 1991 projection. A detailed discussion of the projections methodology is contained in *Projections of Education Statistics to 2003* (National Center for Education Statistics, 1992).

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors can arise in various ways: from respondents or interviewers interpreting questions differently, from respondents estimating the values that they provide, from partial to total nonresponse, from imputation or reweighting to adjust for nonresponse, from inability or unwillingness on the part of respondents to provide correct information, from recording and keying errors, or from overcoverage or undercoverage of the target universe.

Sampling and nonsampling error combine to yield total survey error. Since estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available. In almost all situations, the sampling error represents an underestimate of the total survey error, and thus an overestimate of the precision of the survey estimates.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. An adjustment made for either type of nonresponse is often referred to as an imputation—substitution of the "average" questionnaire response for the nonresponse. Imputations are usually made separately within various groups of sample members which have similar survey characteristics. Imputation for item nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics that are similar to those of the nonrespondent.

In editions prior to 1992 of *The Condition of Education*, when reporting race-specific data from the Current Population Survey, Hispanics were usually included among whites and blacks (i.e., "Hispanics may be of any race."). Beginning with the 1992 edition, racial/ethnic data from the Current Population Survey excludes Hispanics from whites and blacks (e.g., whites are non-Hispanic whites and blacks are non-Hispanic blacks).

Unless otherwise noted, all dollar values in this volume are expressed in constant 1992 dollars. The consumer price index (CPI) is used to convert current dollars for earlier years to 1992 dollars. The CPI index for 1992 is 140.3.

## 1. Federal Agency Sources

**National Center for Education Statistics**
**U.S. Department of Education**

*Common Core of Data*

The National Center for Education Statistics (NCES) uses the Common Core of Data (CCD) survey to acquire and maintain statistical data on the 50 states, the District of Columbia, and the outlying areas from the universe of state-level education agencies. Information about staff and students is collected annually at the school, LEA (local education agency or school district), and state levels. Information about revenues and expenditures is also collected at the state level. Data are collected for a particular school year (July 1 through June 30) via survey instruments sent to the states by October 15 of the subsequent school year. States have 2 years in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of *The Condition of Education* is not subject to sampling error. However, nonsampling error could come from two sources—nonreturn and inaccurate reporting. Almost all of the states submit the six CCD survey instruments each year, but there are many delays in submitting data and the submissions are sometimes incomplete.

Understandably, when 57 education agencies compile and submit data for over 85,000 public schools and approximately 15,800 local school districts, misreporting can occur. Typically, this results from varying interpretation of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the Council of Chief State School Officers (CCSSO) and its Committee on Evaluation and Information Systems (CEIS). The state education agencies report data to NCES from data collected and edited in the states' regular reporting cycles. NCES encourages the agencies to incorporate into their own survey systems the NCES items they do not already collect so that those items will also be available for the subsequent CCD survey. Over time this has meant fewer missing data cells in each state's response, reducing the need to impute data.

NCES subjects data from the education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the education agencies for verification. NCES-prepared state summary forms are returned to the state education agencies for verification. States are also given an opportunity to revise their state-level aggregates from the previous survey cycle.

Questions concerning the Common Core of Data can be directed to:

John Sietsema
Elementary and Secondary Education
Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5651

*Federal Support for Education*

NCES prepares an annual compilation of Federal Funds for Education. Data for U.S. Department of Education program totals come from the *Budget of the U.S. Government*. Budget offices of other federal agencies provide information for all other federal program support except for research funds, which are obligations reported by the National Science Foundation in *Federal Funds for Research and Development*, fiscal years 1965 to 1992. Some data are estimated, based on reports from the federal agencies contacted and the *Budget of the U.S. Government*.

Except for money spent on research, outlays were used to report program funds to the extent possible. Some tables are obligations as noted in the title of the table. Some federal program funds not commonly recognized as education assistance are also included in the totals reported. For example, portions of federal funds paid to some states and counties as shared revenues resulting from the sale of timber and minerals from public lands have been estimated as funds used for education purposes. Parts of the funds received by states (in 1980) and localities under the General Revenue Sharing

Program are also included, as are portions of federal funds received by the District of Columbia. The share of these funds allocated to education was assumed equal to the share of general funds expended for elementary and secondary education by states and localities in the same year as reported by the U.S. Bureau of the Census in its annual publication, *Governmental Finances.*

All state intergovernmental expenditures for education were assumed earmarked for elementary/secondary education. Contributions of parent governments of dependent school systems to their public schools amounted to approximately 9 percent of local government revenues and local government revenue sharing in each year. Therefore, 9 percent of local government revenue-sharing funds were assumed allocated each fiscal year to elementary and secondary education. Parent government contributions to public school systems were obtained from the U.S. Bureau of the Census, *Finances of Public School Systems.*

The amount of state revenue-sharing funds allocated for postsecondary education in 1980 was assumed to be 13 percent, the proportion of direct state expenditures for institutions of higher education reported in *Governmental Finances* for that year.

The share of federal funds for the District of Columbia assigned to education was assumed equal to the share of the city's general fund expenditures for each level of education.

For the job training programs conducted by the Department of Labor, only estimated sums spent on classroom training have been reported as educational program support.

During the 1970s, The Office of Management and Budget (OMB) prepared annual reports on federal education program support. These were published in *Budget of the United States Government [Special Analyses].* The information presented in this report is not, however, a continuation of the OMB series. A number of differences in the two series should be noted. OMB required all federal agencies to report outlays for education-related programs using a standardized form, thereby assuring agency compliance in reporting. The scope of education programs reported here differs from OMB. Off-budget items such as the annual volume of guaranteed student loans were not included in OMB's reports. Finally, while some mention is made of an annual estimate of federal tax expenditures, OMB did not include them in its annual analysis of federal education support. Estimated federal tax expenditures for education are the difference between current federal tax receipts and what these receipts would be without existing education deductions to income allowed by federal tax provisions.

Recipients' data are estimated based on *Estimating Federal Funds for Education: A New Approach Applied to Fiscal Year 1980,* U.S. Department of Education, "Federal Support for Education, Fiscal Years 1980 to 1984," and *Catalog of Federal Domestic Assistance.* The recipients' data are estimated and tend to undercount institutions of higher education (IHEs), students, and local education agencies (LEAs). This is because some of the federal programs have more than one recipient receiving funds. In these cases the recipients were put into a "mixed recipients" category, because there was no way to disaggregate the amount each recipient received.

Questions concerning "Federal Support for Education" can be directed to:

Charlene Hoffman
Data Development Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5650

### *High School and Beyond*

High School and Beyond (HS&B) is a national longitudinal survey of 1980 high school sophomores and seniors. The base-year survey was a probability sample of 1,015 high schools with a target number of 36 sophomores and 36 seniors in each of the schools. A total of 58,270 students participated in the base-year survey. Substitutions were made for noncooperating schools—but not for students—in those strata where it was possible. Overall, 1,122 schools were selected in the original sample and 811 of these schools participated in the survey. An additional 204 schools were drawn in a replacement sample. Student refusals and student absences resulted in an 82 percent completion rate for the survey.

Several small groups in the population were oversampled to allow for special study of certain types of schools and students. Students completed questionnaires and took a battery of cognitive tests. In addition, a sample of parents of sophomores and seniors (about 3,600 for each cohort) was surveyed.

HS&B first followup activities took place in the spring of 1982. The sample design of the first followup survey called for the selection of approximately 30,000 people who were sophomores in 1980. The completion rate for sophomores eligible for on-campus survey administration was about 96 percent. About 89 percent of the students who left school between the base year and first followup surveys (dropouts, transfer students, and early graduates) completed the first followup sophomore questionnaire.

In designing the senior cohort first followup survey, one of the goals was to reduce the size of the retained sample, while still keeping sufficient numbers of minorities to allow important policy analyses. A total of 11,227 (94 percent) of the 11,995 persons subsampled completed the questionnaire. Information was obtained about the respondents' school and employment experiences, family status, and attitudes and plans.

The sample for the second followup, which took place in spring 1984, consisted of about 12,000 members of the senior cohort and about 15,000 members of the sophomore cohort. The completion rates were 91 percent for the senior cohort and 92 percent for the sophomore cohort.

HS&B third followup data collection activities were performed in spring 1986. Both the sophomore and senior cohort samples for this round of data collection were the same as those used for the second followup survey. The completion rates for the sophomore and senior cohort samples were 91 percent and 88 percent, respectively.

Further information on the High School and Beyond survey may be obtained from:

Aurora M. D'Amico
Postsecondary Education Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

### *High School Transcript Studies*

As part of the first followup survey of High School and Beyond, transcripts were requested in fall 1982 for an 18,152-member subsample of the sophomore cohort. Of the 15,941 transcripts actually obtained, 1,969 were excluded because the students had dropped out of school before graduation, 799 were excluded because they were incomplete, and 1,057 were excluded because the students graduated before 1982 or the transcript indicated neither a dropout status nor graduation. Thus 12,116 transcripts were used for the overall curriculum analysis presented in this publication.

All courses in each transcript were assigned a six-digit code based on *A Classification of Secondary School Courses* (developed by Evaluation Technologies, under contract with NCES). Credits earned in each course were expressed in Carnegie units. (The Carnegie unit is a standard of measurement that represents 1 credit for the completion of a 1-year course. To receive credit for a course, the student must have received a passing grade—"pass," "D," or higher.) Students who transferred from public to private schools or from private to public schools between their sophomore and senior years were eliminated from public/private analyses.

Transcripts of 1987 high school graduates were compared with transcripts of 1982 graduates to describe changes in course taking across this 5-year period. The analyses were based on approximately 22,700 transcripts of 1987 graduates obtained as part of the 1987 High School Transcript Study and 12,000 transcripts of 1982 graduates who participated in the High School and Beyond (HS&B) project. A brief description of each study is provided below.

The sample of schools for the 1987 High School Transcript Study (conducted by Westat, Inc., for the U.S. Department of Education, NCES) consisted of a nationally representative sample of 471 eligible secondary schools selected for 1986 National Assessment of Educational Progress (NAEP) for grade 11/age 17 students, of which 433 schools participated.

The 1990 High School Transcript Study was conducted using the methodology and techniques nearly identical to those used in the 1987 study. The sample of schools was a nationally representative sample of schools teaching grade 12 or having 17-year-old students, and the sample of students was a representative sample of seniors graduating from each school. Approximately three-fourths of the sample for the transcript study had participated in NAEP assessments in 1990.

These analyses focused on high school graduates, so only those students who had graduated from high school were included—from the 1990 study, the 1987 High School Transcript Study, and from High School and Beyond. Because the methods of identifying and defining handicapped students were different for the later studies, and in order to make the samples as comparable as possible, it was necessary to restrict the samples to those students whose records indicated they had not participated in a special education program.

Further information on this survey may be obtained from:

Patrica Dabbs
Education Assessment Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5653

### *Integrated Postsecondary Education Data System*

The Integrated Postsecondary Education Data System (IPEDS) surveys all postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaces and supplements the Higher Education General Information Survey (HEGIS).

IPEDS consists of several integrated components that obtain information on where postsecondary education is available (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and what human and financial resources are involved in the provision of institutionally based postsecondary education. Specifically, these components include: institutional characteristics, including institutional activity; fall enrollment, including age and residence; fall enrollment in occupationally specific programs; completions; finance; staff; salaries of full-time instructional faculty; and academic libraries.

The higher education portion of this survey is a census of accredited 2- and 4-year colleges, while data from the technical and vocational institutions are collected through a sample survey. Thus, some portions of the data will be subject to sampling and nonsampling errors, while some portions will be subject only to nonsampling errors.

Prior to the establishment of IPEDS in 1986, HEGIS acquired and maintained statistical data on the characteristics and operations of institutions of higher education. Implemented in 1966, HEGIS was an annual universe survey of institutions listed in the latest NCES *Education Directory of Colleges and Universities.*

The trend tables presented in this report draw on IPEDS and HEGIS surveys which solicited information concerning institutional characteristics, faculty salaries, finances, enrollment, and degrees. Since these surveys were distributed to all higher education institutions, the data presented were not subject to sampling error. However, they were subject to nonsampling error, the sources of which varied with the survey instrument. Information concerning the nonsampling error of the enrollment and degrees surveys draws extensively on the "HEGIS Post-Survey Validation Study" conducted in 1979.

Further information on IPEDS may be obtained from:

William H. Freund
Postsecondary Education Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

*Fall Enrollment.* This survey has been part of the IPEDS or HEGIS series since 1966. The enrollment survey response rate was relatively high; the 1990 response rate was 87.2 percent. Major sources of nonsampling error for this survey were classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to have been the main source of error. Institutions had problems in correctly classifying first-time freshmen, other first-time students, and unclassified students for both full-time and part-time categories. These problems occurred most often at 2-year institutions (private and public) and private 4-year institutions. In the 1977-78 HEGIS validation studies, the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the ratio of error to the grand total was quite small (less than 1 percent), the percentage of errors was as high as 5 percent for detailed student levels and even higher at certain aggregation levels.

Beginning with fall 1986, the survey system was redesigned with the introduction of IPEDS (see above). The new survey system comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing HEGIS institutions to be tabulated separately. The new system also provides for preliminary and revised data releases. This allows the Center flexibility to release early data sets while still maintaining a more accurate final database.

*Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty.* This survey has been conducted for most years from 1966-67 to 1985-86, and in 1987-88 and 1989-90. Although the survey form was changed a number of times during those years, only comparable data are presented in this report. The data were collected from the individual colleges and universities.

Between 1966-67 and 1985-86 this survey differed from other HEGIS surveys in that imputations were not made for nonrespondents. Thus, there is some possibility that the salary averages presented in this report may differ from the results of a complete enumeration of all colleges and universities. Beginning with the surveys for 1987-88, the IPEDS data tabulation procedures included imputations for survey nonrespondents. The response rate for the 1989-90 survey was 80.5 percent. The response rate for public colleges was substantially higher than the response rate for private colleges. Thus, it is probable that the public colleges' salary data are more accurate than the data for private colleges. Although data from these surveys are not subject to sampling error, sources of nonsampling error included computational errors and misclassification in reporting and processing. NCES checked individual colleges' data for internal and longitudinal consistency and contacted the colleges to check inconsistent data.

*Completions.* This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970-71 and 1982-83. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970-71 through 1981-82 is directly comparable, care must be taken if information before or after that period is included in any comparison. For example, degrees-conferred trend tables arranged by the 1982-83 classification were added to the *Digest of Education Statistics, 1992* to provide consistent data from 1970-71 to 1988-89. However, data on associate and other formal awards below the baccalaureate, by field of study after 1982-83, are not comparable with figures for earlier years. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years was high, with the response rate for the 1989-90 survey at 92.3 percent. Because of the high return rate, nonsampling error caused by imputation was also minimal.

The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors and double degrees, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling were found to contribute to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the validation study had no errors identified. Categories of fields that had large differences were business and management, education, engineering, letters, and psychology. It was also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were: master's and Ph.D. programs in labor and industrial relations (20 percent and 8 percent); bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and Ph.D. programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and Ph.D. programs in psychology (11 percent).

*Financial Statistics.* This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell Grant data were collected in federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of IPEDS in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell Grant amounts from the later data to maintain comparability with pre-FY 82 data.

Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification. The response rate has been about 85 to 90 percent for most of the years reported. The response rate for the FY 1989 survey was 83.5 percent.

Two general methods of imputation were used in HEGIS. If the prior year's data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments. If no previous year's data were available, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size of institution. In most cases estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the new survey system (IPEDS, see above) has comprised all postsecondary institutions, but has also maintained comparability with earlier surveys by allowing 2- and 4-year HEGIS institutions to be tabulated separately. The finance data tabulated for this publication reflect totals for the HEGIS or higher education institutions only. For FY 87 through FY 89, in order to maintain comparability with the historical time series of HEGIS institutions, data were combined from two of the three different survey forms that make up the IPEDS survey system. The vast majority of the data were tabulated from Form 1, which was used to collect information from public and private nonprofit 2- and 4-year colleges. Form 2, a condensed form, was used to gather data for the 2-year proprietary institutions. Because of the differences in the data requested on the two forms, several assumptions were made about the Form 2 reports so that their figures could be included in the institutions of postsecondary education totals.

In IPEDS, the Form 2 institutions were not asked to separate appropriations from grants and contracts, nor state from local sources of funding. For the Form 2 institutions, all the federal revenues were assumed to be federal grants and contracts and all of the state and local revenues were assumed to be restricted state grants and contracts. All other Form 2 sources of revenue, except for tuition and fees and sales and services of educational activities, were included under "other." Similar adjustments were made to the expenditures accounts. The Form 2 institutions reported instruction and scholarship and fellowship expenditures only. All other educational and general expenditures were allocated to academic support.

To reduce reporting error, NCES used national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services* (1974 Edition), published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide* (1980), by NCES. Wherever possible, definitions and formats in the survey form are consistent with those in these three accounting texts.

*Fall Staff.* The fall staff data presented in this publication were collected in cooperation with the U.S. Equal Employment Opportunity Commission (EEOC). In 1989, survey instruments were mailed to 6,669 in-scope postsecondary education institutions, including 2,576 4-year schools, 2,739 2-year schools, and 273 public less-than-2-year schools. The universe of 5,002 less-than-2-year private institutions were represented by a sample of 1,071 institutions.

EEOC collects staff data through the Higher Education Staff Information (EEO-6) report from all higher education institutions with 15 or more full-time employees. NCES, through the IPEDS system, collects data from all other postsecondary institutions including higher education institutions with less than 15 full-time employees. The NCES and EEOC collect staff data biennially in odd numbered years in institutions of postsecondary education. The IPEDS file combines data from the two surveys to create the IPEDS "Fall Staff" data tape. For example, the IPEDS "Fall Staff" questionnaires were mailed out in July 1989 by NCES; the respondents reported the number of employees in their institution as of October 1, 1989. The EEO-6 questionnaires were mailed out by EEOC between October and November 1989; the respondents reported the employment statistics in their institution that cover the payroll period closest to October 1 or the survey year.

The 3,589 institutions of higher education (in the 50 states and the District of Columbia) in operation in 1989 form a subset of the universe of postsecondary institutions in this report. These institutions are accredited at the college level by an agency recognized by the Secretary, U.S. Department of Education; these institutions previously were surveyed under the HEGIS, which IPEDS supersedes.

The "Fall Staff" survey had an overall response rate of 77.4 percent. This response rate was calculated as the ratio of the number of completed survey forms divided by the number of in-scope institutions. The response rate for higher education institutions was 89.6 percent.

*Institutional Characteristics.* This survey provided the basis for the universe of institutions presented in the Education Directory, Colleges and Universities. The universe comprised institutions that met certain accreditation criteria and offered at least a 1-year program of college-level studies leading toward a degree. All of these institutions were certified as eligible by the U.S. Department of Education's Division of Eligibility and Agency Evaluation. Each fall, institutions listed in the previous year's Directory were asked to update a computer printout of their information.

### *National Assessment of Educational Progress*

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated study funded by the Office of Educational

Research and Improvement, U.S. Department of Education. The overall goal of the project is to determine the nation's progress in education. To accomplish this goal, a cross-sectional study was designed and initially implemented in 1969. Periodically, NAEP has gathered information about levels of educational achievement across the country. NAEP has surveyed the educational accomplishments of 9-,13-, and 17-year-old students (and in recent years, grades 4, 8, and 12), and occasionally young adults, in 10 learning areas. Different learning areas were assessed annually and, as of 1980–81, biennially. Most areas have been periodically reassessed in order to measure possible changes in education achievement.

The reading, writing, math, and science assessments presented in this publication were conducted by either the Education Commission of the States (1969–1983) or the Educational Testing Service (1983 to the present). NAEP in-school assessments were based on a deeply stratified three-stage sampling design to obtain a nationally representative sample by age and, beginning in 1983–84, by grade. The first stage of sampling entails defining and selecting primary sampling units (PSUs). For each grade level (4, 8, or 12), the second stage entails enumerating, stratifying, and randomly selecting schools, both public and private, within each PSU selected at the first stage. The third stage involves randomly selecting students within a school for participation in NAEP. Assessment exercises were administered to small groups of students by specially trained personnel.

Information from NAEP is subject to both nonsampling and sampling error. Two possible sources of nonsampling error are nonparticipation and faulty instrumentation. The effects of nonparticipation are in some ways reduced through oversampling, although this does not assess the bias of nonparticipants. Instrumentation nonsampling error includes whether the NAEP assessment instruments measure what is being taught and in turn what is being learned by the students, ambiguous items or instructions, and insufficient time limits.

For further information on NAEP, contact:

Gary Phillips
Education Assessment Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5653

*National Education Longitudinal Study of 1988*

The National Education Longitudinal Study of 1988 (NELS:88) is the third major longitudinal study sponsored by the National Center for Education Statistics. The two studies that preceded NELS:88, the National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HS&B) surveyed high school seniors (and sophomores in HS&B) through high school, postsecondary education, and work and family formation experiences. Unlike its predecessors, NELS:88 began with a cohort of eighth-grade students.

NELS:88 is designed to provide trend data about critical transitions experienced by young people as they develop, attend school, and embark on their careers. It complements and strengthens state and local efforts by furnishing new information on how school policies, teacher practices, and family involvement affect student educational outcomes (i.e., academic achievement, persistence in school, and participation in postsecondary education). The base-year NELS:88 was a multi-faceted study questionnaire with four cognitive tests, and questionnaires for students, teachers, parents and the school.

Sampling was first conducted at the school level and then at the student level within schools. The data were drawn from a nationally representative sample of 1,000 schools (800 public schools; and 200 private schools, including parochial institutions). Within this school sample, 26,000 eighth-grade students were selected at random. The first and second followups revisited the same sample of students in 1990 and 1992, when the 1988 8th graders were in the 10th and 12th grades. Similar follow ups are planned for 1994 and 1996.

For more information on this survey, contact:

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National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5651

### *National Household Education Survey*

The National Household Education Survey (NHES) is the first major attempt by the National Center for Education Statistics to go beyond its traditional, school-based data collection to a household survey. Historically, NCES has collected data from teachers, students, and schools through school-based surveys and from administrative records data through surveys of school districts and state education agencies. The NHES has the potential to address many issues in education that have not been addressed previously by NCES data collection activities.

The NHES is designed as a mechanism for collecting detailed information on educational issues from a relatively large and targeted sample of households in a timely fashion. Data for the NHES are being collected through telephone interviews, a relatively new approach for gathering data related to education issues. The NHES uses Random Digit Dialing (RDD) to select households and Computer Assisted Telephone Interviewing (CATI) to collect information from household members. The sample for the NHES is drawn from the non-institutionalized civilian population in households with a telephone in the 50 states and the District of Columbia.

During the spring of 1991, NCES fielded a full-scale NHES on early education. Approximately 60,000 households were screened to identify a sample of children 3- to 8-years old. The parents of these children were interviewed in order to collect information about their children's educational activities and the role of the family in children's learning. At the same time, an adult education supplement was fielded. Adult household members were sampled and questioned about their participation in adult education.

The adult education component was, for the most part, adapted from the previous Current Population Survey (CPS) adult education supplements. However, unlike the CPS, it collects information on both adult education participants and non-participants. At present, NCES plans to field the adult education component once every 3 years after 1991. The NHES survey will identify and screen more than 60,000 households, with an oversampling of black and Hispanic households at a rate of 2 to 1. A knowledgeable adult will be asked a series of questions to screen all household members for adult education participation in a sample of about 20,000 of these 60,000 households resulting in interviews with approximately 9,800 adult education participants and 2,750 non-participants. The adult education component of NHES can be used to address many questions about the patterns of participation by demographic and labor force characteristics. It will include data on reasons for taking courses, on the providers of the courses, and the cost of the courses. Information will also be collected from non-participants concerning barriers to their participation.

For further information on the adult education component of NHES contact:

Kathryn Chandler
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National Center for Education Statistics
555 New Jersey Avenue, NW
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### *National Longitudinal Study of the High School Class of 1972*

The National Longitudinal Study (NLS) of the high school class of 1972 began with the collection of base-year survey data from a sample of about 19,000 high school seniors in spring of 1972. Five more followup surveys of these students were conducted in 1973, 1974, 1976, 1979, and 1986. The NLS was designed to provide the education community with information on the transitions of young adults from high school through postsecondary education and the workplace.

The sample design for the NLS is a stratified, two-stage probability sample of students from all schools, public and private, in the 50 states and the District of Columbia, with a 12th-grade enrollment during the 1971–72 school year. During the first stage of sampling, about 1,070 schools were selected for participation in the base-year survey. As many as 18 students were selected at random from each of the sample schools. The sizes of the school and student samples were increased during the first followup survey. Beginning with the first followup and continuing through the fourth followup, about 1,300 schools participated in the survey, and slightly under 23,500 students were sampled. The response rates for each of the different rounds of data collection have been 80 percent or higher.

Sample retention rates across the survey years have been quite high. For example, of the individuals responding to the base-year questionnaire, the percentages who responded to the first, second, third, and fourth followup questionnaires were about 94, 93, 89, and 83 percent, respectively.

Further information may be obtained from:

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555 New Jersey Avenue NW
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*National Postsecondary Student Aid Study*

The National Center for Education Statistics conducted the National Postsecondary Student Aid Study (NPSAS) for the first time during the 1986-87 school year. This survey established the first comprehensive student financial aid database. Data were gathered from 1,074 postsecondary institutions and approximately 60,000 students and 24,000 parents. These data provided information on the cost of postsecondary education, the distribution of financial aid, and characteristics of both aided and non-aided students and their families, and the nature of aid packages.

In response to the continuing need for these data, NCES conducted the second cycle of NPSAS for the 1989-90 school year. In addition to replicating the earlier study, the 1990 NPSAS contains enhancements to the 1987 methodology that will fully meet the data needs of the financial aid community and of policymakers.

The 1990 in-school sample involved about 70,000 students selected from registrar lists of enrollees at 1,200 postsecondary institutions. The sample included both aided and non-aided students. Student information such as field of study, education level, and attendance status (part-time or full-time) was obtained from registrar records. Types and amounts of financial aid and family financial characteristics were abstracted from school financial aid records. Also, approximately 26,000 parents of students were sampled. Data concerning family composition and parent financial characteristics was compiled. Followup data collections are expected at 2-year intervals. Students enrolled in postsecondary education for the first time in 1990 will serve as the base for the longitudinal component of NPSAS.

Further information about this survey may be obtained from:

Andrew G. Malizio
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National Center for Educational Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

*National Survey of Postsecondary Faculty*
(NSOPF-88)

The National Survey of Postsecondary Faculty was a comprehensive survey of higher education instructional faculty in the fall of 1987. It was the first such survey conducted since 1963. It gathered information regarding the backgrounds, responsibilities, workloads, salaries, benefits, and attitudes of both full- and part-time instructional faculty in 2- and 4-year institutions under both public and private control. In addition, information was gathered from institutional and department-level respondents on such issues as faculty composition, new hires, departures and recruitment, retention, and tenure policies.

There were three major components of the study: a survey of institutional-level respondents at a stratified random sample of 480 U.S. colleges and universities; a survey of a stratified random sample of 3,029 eligible department chairpersons (or their equivalent) within the participating 4-year institutions; and a survey of a stratified random sample of 11,013 eligible faculty members within the participating institutions. Response rates to the three surveys were 88 percent, 80 percent, and 76 percent, respectively.

The universe of institutions from which the sample was selected was all accredited nonproprietary U.S. postsecondary institutions that grant a 2-year (AA) or higher degree and whose accreditation at the higher education level is recognized by the U.S. Department of Education. This includes religious, medical, and other specialized postsecondary institutions as well as 2- and 4-year nonspecialized institutions. According to the 1987 Integrated Postsecondary Education Data System (IPEDS), this universe comprised 3,159 institutions. The universe does not include proprietary 2- and 4-year institutions or less-than-2-year postsecondary institutions.

Further information about this survey may be obtained from:

Linda Zimbler
Postsecondary Education Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

### *Projections of Education Statistics*

Since 1964, NCES has published *Projections of Education Statistics*, projecting for elementary and secondary schools and institutions of higher education key statistics including enrollments, instructional staff, graduates, and earned degrees. *Projections* includes several alternative projection series and a methodology section describing the techniques and assumptions used to prepare them. Data in this edition of *The Condition of Education* reflect the intermediate projection series only.

Differences between the reported and projected values are, of course, almost inevitable. An evaluation of past projections revealed that, at the elementary and secondary level, projections of enrollment have been quite accurate: mean absolute percentage differences for enrollment projections from 1 to 5 years into the future were less than 1 percent, while those for teachers were less than 4 percent.

Since projections of time series are subject to errors both by the nature of statistics and the properties of projection methodologies, users are cautioned not to place too much confidence in the numerical values of the projections. Important but unforeseeable economic and social changes may lead to differences. Projections are to be considered as indicators of broad trends.

For further information about projection methodology and accuracy, contact:

Debra E. Gerald
Statistical Standards and Methodology Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5654

### *Survey of Recent College Graduates*

NCES has conducted periodic surveys of persons, about 1 year after graduation, to collect information on college outcomes. The "Recent College Graduates" surveys have concentrated on those graduates entering the teaching profession. To obtain accurate results on this subgroup, graduates who are newly qualified to teach have been oversampled in each of the surveys. The survey involves a two-stage sampling procedure. First, a sample of institutions awarding bachelor's and master's degrees is selected and stratified by percentage of education graduates, control, and type of institution. Second, for each of the selected institutions, a sample of degree recipients is chosen. The response rates on the recent college graduates survey have tended to be low because of the great difficulty in tracing the students after graduation. Much more of the nonresponse can be attributed to invalid mailing addresses than to refusals to participate. Despite their shortcomings, the data are presented in this report because they provide valuable information not available elsewhere about college outcomes. Users should be cautious about drawing conclusions based on data from small samples. It is also likely that the data are somewhat biased since the more mobile students, such as graduate students, are the most difficult to track for the survey.

The 1976 survey of 1974-75 college graduates was the first and smallest of the series. The sample consisted of 209 schools, of which 200 (96 percent) responded. Of the 5,506 graduates in the sample, 4,350 responded, for a response rate of 79 percent.

The 1981 survey was larger, with a coverage of 301 institutions and 15,852 graduates. Responses were obtained from 286 institutions, for an institutional response rate of 95 percent, and from 9,312 graduates (716 others were determined to be out of scope), for a response rate of 62 percent.

The 1985 survey requested data from 18,738 graduates from 404 colleges. Responses were obtained from 13,200 students, for a response rate of 74 percent (885 were out of scope). The response rate for the colleges was 98 percent.

The 1987 survey form was sent to 21,957 graduates. Responses were received from 16,878, for a response rate of 79.7 percent. The *1987 Transcript Study* collected transcripts for each student who was part of the 1987 sample.

The 1991 survey sampled 18,135 graduates and 400 institutions. The response rates were 83 percent for the graduates and 95 percent for institutions.

Further information on this survey may be obtained from:

Peter Stowe
Postsecondary Education Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

### *International Assessment of Educational Progress*

In 1990–91, a total of 20 countries assessed the mathematics and science achievement of 13-year-old students and 14 of the 20 countries assessed 9-year-old students in these same subjects. Some countries assessed virtually all age-eligible children in the appropriate age group; others confined their samples to certain geographic regions, language groups, or grade levels. The definition of populations often followed the structure of school systems, political divisions, and cultural distinctions. In some countries, significant proportions of age-eligible children were not represented because they did not attend school (see notes to supplemental tables 15:1–4 and 16:1–4). Also, in some countries, low rates of school or student participation mean results may be biased.

Typically, a random sample of 3,300 students from about 110 different schools was selected-from each population at each age level; half were assessed in mathematics and half in science. A total of about 175,000 9- and 13-year-olds (those born in calendar years 1981 and 1977, respectively) were tested in 13 different languages in March 1991.

The achievement tests lasted one hour. The tests given to 9-year-olds included 62 questions in mathematics and 60 questions in science. Those for 13-year-olds included 76 questions in mathematics and 72 questions in science. In addition, students of each age spent about 10 minutes responding to questions about their backgrounds and home and school experiences. School administrators completed a school questionnaire.

Initial analyses involved the calculation of the percentage of correct answers and standard errors for individual questions. For each population, the weighted percentage of correct answers was calculated for each question. The results of students who omitted questions at the end of sections because they did not reach them were excluded from the calculations for those questions. For each percentage correct, an estimate of its standard error was calculated using the jackknife procedure. Percentage and standard errors were calculated for subgroups within each population, including gender and grade. Statistics for Canada were calculated using an appropriately weighted sample of responses drawn from the individual Canadian populations.

Further information on this survey can be obtained from:

Maureen E. Treacy
Education Assessment Division
National Center for Education Statistics
555 New Jersey Avenue NW
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### *Schools and Staffing Survey*

Information on the school work force and teacher supply and demand are fundamental features of America's public and private school landscape. Yet, until recently, there has been a lack of data on characteristics of our children's teachers and administrators and their workplace conditions. The Schools and Staffing Survey (SASS) was designed to meet this need. This survey is a comprehensive public and private, elementary/secondary education database that combines and expands three separate surveys NCES has conducted in the past. These included surveys of teacher demand and shortage, of public and private schools, and of public and private school teachers. The school administrator survey is a new addition to the NCES database.

Schools were the primary sampling unit for SASS, and a sample of teachers was selected in each school; public school districts were included in the sample when one or more of their schools was selected. The 1990-91 SASS included approximately 12,800 schools (9,300 public and 3,500 private), 65,000 teachers (52,000 public and 13,000 private), and 5,600 public school districts. The survey was conducted by mail with telephone followups.

The SASS sample has been designed to support the following types of estimates/comparisons: national and state estimates for public schools and teachers; estimates for private schools and teachers at the national level and for selected orientation groupings; and national comparisons of elementary, secondary, and combined schools and teachers. SASS was first conducted in the 1987–1988 school year. Data collection at 2-year intervals began in 1990-91.

Another component of SASS is the Teacher Followup Survey (TFS). It consists of a subsample of SASS, and is implemented 1 year after the base-year survey. The survey identifies and collects data from various groups of teachers who were interviewed the previous year: 1) those persons who remain in the teaching profession, including those who remain in the same school as well as those who have moved; and 2) those persons who have left the teaching profession. These data will be used to provide information about teacher attrition and retention in the public and private schools and to project teacher demand during the 1990s.

Further information on this survey may be obtained from:

Dan Kasprzyk
Elementary and Secondary Education Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, D.C. 20208-5651

## Office for Civil Rights
## U.S. Department of Education

*Civil Rights Survey of Elementary and Secondary Education*

The Office for Civil Rights (OCR) in the U.S. Department of Education conducts periodic surveys of elementary and secondary schools to obtain data on the characteristics of students enrolled in public schools throughout the nation. Racial/ethnic status, gender, limited English proficiency, and handicapping conditions are among the characteristics covered by recent surveys. Such information is required by OCR to fulfill its responsibilities under Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and section 504 of the Rehabilitation Act of 1973. The 1976 survey was a complete census of public school districts in the nation. The 1984, 1986, and 1988 surveys were based on samples. The universe, from which the districts were to be sampled, was defined to be all public schools in the nation (50 states and the District of Columbia). A universe file maintained by the National Center for Education Statistics from its Common Core of Data was used. The selection factors used in selecting the sample were (1) minimum percent coverage of a specific population variable, and (2) maximum percent standard deviation of a projection of a population variable from the sample to the universe total.

Stratification also included district size and state. The 1984, 1986 and 1988 surveys are subject to sampling and nonsampling errors.

For further information about these surveys contact

Survey Branch, Office for Civil Rights
Lawrence Bussey
Room 5525, Switzer Building
330 C Street SW
Washington, DC 20202

## Office of Special Education and Rehabilitative Services
## U.S. Department of Education

*Annual Report to Congress on the Implementation of the Education of the Handicapped Act*

The Education of the Handicapped Act (EHA) requires the Secretary of Education to transmit to Congress annually a report describing the progress in serving the nation's handicapped children. The annual report contains information on such children served by the public schools under the provisions of Part B of the EHA and for children served in state-operated programs (SOP) for the handicapped under Chapter I of the Education Consolidation and Improvement Act (ECIA). Statistics on children receiving special education and related services in various settings and school personnel providing such services are reported in an annual submission of data to the Office of Special Education and Rehabilitative Services (OSERS) by the 50 states, the District of Columbia, and the outlying areas. The child count information is based on the number of handicapped children receiving special education and related services on December 1 of each year for EHA and October 1 for Chapter I of ECIA/SOP.

Since each participant in programs for the handicapped is reported to OSERS, the data are not subject to sampling error. However, nonsampling error can occur from a variety of sources. Some states follow a noncategorical approach to the delivery of special education services but produce counts by handicapping condition only because EHA-B requires it. In those states that do categorize their handicapped students, definitions and labeling practices vary. In each case, even though states must use the federal definitions of the handicapping categories for reporting purposes, there is no way to judge the accuracy of these states' relabeling of their students for the federal count. Some states also have reported combined counts for some of the smaller categories of handicap.

These variations in labeling practices may help explain why there have been inconsistencies both year to year within a given state and from state to state in the ways in which students with more than one handicapping condition have been categorized. However, federal and state efforts to ensure that children are being classified and reported appropriately, and efforts to achieve greater consistency in classification and reporting among states help minimize these variations.

Further information on the Annual Report to Congress may be obtained from:

Lou Danielson
Office of Special Education and
Rehabilitative Services
Office of Special Education Programs
Room 3523, Switzer Building
330 C Street SW
Washington, DC 20202

**Bureau of the Census**
**U.S. Department of Commerce**

*Current Population Survey*

Current estimates of school enrollment and social and economic characteristics of students are based on data collected in the Census Bureau's monthly household survey of about 60,000 households, the Current Population Survey (CPS). The CPS covers 729 sample areas consisting of 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The current sample was selected from 1980 census files and is periodically updated to reflect new housing construction.

The primary function of the monthly CPS is to collect data on labor force participation of the civilian noninstitutional population. (It excludes military personnel and inmates of institutions.) In October of each year, questions on school enrollment by grade and other school characteristics are asked about each member of the household.

The estimation procedure employed for the monthly CPS data involves inflating weighted sample results to independent estimates for the total civilian noninstitutional population by age, sex, race, and Hispanic origin. These independent estimates are derived from statistics from decennial censuses of the population: statistics on births, deaths, and immigration and emigration; and statistics on the strength of the Armed Forces. Generalized standard error tables are provided in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

Further information is available in the *Current Population Reports*, Series P-20, or by contacting:

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

*School Enrollment.* Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population aged 3 and over. Annual reports documenting school enrollment of the population have been produced by the Bureau of the Census since 1946. The latest report is *Current Population Reports*, Series P-20, No. 452, *School Enrollment—Social and Economic Characteristics of Students: October 1989*. All sample surveys are subject to sampling and nonsampling error. The main sources of nonsampling error in the supplement are those inherent in any household survey. When a household respondent reports for all individuals in the household, is that person knowledgeable about the grade or level of school, type of school, or full-time status? In addition, some analysts believe social acceptability of response causes biased reporting, such as reluctance to report lack of a high school diploma; some dismiss it. Household-reported data may not be consistent with administrative data because definitions may not be the same. An additional source of variation in statistics reported may be a change in the survey universe over time. For example, a significantly larger proportion of young men were members of the Armed Forces in the late 1960s and early 1970s than before or after and, therefore, were not in the CPS universe. That caused a short-term increase in the enrollment *rate* of young men, which was greater than the increase in numbers of enrollees would indicate. Other events may similarly affect survey data. The user must be mindful of external events as well as the character of the population being measured when describing survey trends.

An advantage of household survey data over administrative data is the availability of demographic, social, and economic data for the student and family. Beginning with data for October 1981, tabulations have been controlled to the 1980 census. Estimates for earlier years were controlled to earlier censuses.

Questions concerning the CPS school enrollment data may be directed to:

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

*Educational Attainment.* Data on years of school completed are derived from two questions on the CPS instrument. Biennial reports documenting educational attainment are produced by the Bureau of the Census using March CPS data. The latest report is *Current Population Reports*, Series P-20, No. 451 *Educational Attainment in the United States, March 1989 and 1988.*

The usual constraints on use of household survey data apply. Reliability of response may depend on whether a proxy respondent was used, the recency and importance of the event, and the number and clarity of response categories. There is some evidence that years of school completed in the CPS may not measure completion of degrees as clearly as they once did. The number of persons who have completed 4 years of college has been increasing more rapidly than the number of bachelor's degrees added each year would suggest. While the number of years completed is not deteriorating in quality (that is, respondents are not exaggerating the number of years), more students than in the past are taking more than 4 academic years to complete a bachelor's degree. Also, although interviewers are instructed to count receiving a high school diploma by means of passing a GED exam as completion of the 12th grade, as the number of persons who have received a diploma in this way has increased the number counted appropriately may not have kept pace. The 1990 Census of Population contains a question on highest degree received rather than relying solely on a years of school completed item.

Beginning with the data for March 1980, tabulations have been controlled to the 1980 census. Estimates for earlier years were controlled to earlier censuses.

Questions concerning the CPS educational attainment data may be directed to:

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

*Participation in Adult Education.* In May of 1969, 1972, 1975, 1978, 1981, and 1984, the Current Population Survey (CPS) included a supplemental inquiry on "Participation in Adult Education" (PAE). In addition to the questions on the CPS, interviewers asked if anyone in the household 17 years of age or older had participated in adult education in the 12-month period prior to the survey date. A survey form was filled out by the interviewer or left with a proxy member of the household for participants who were not at home at the time of the interview. In 1981, the supplement form was no longer left with the proxy but completed by the interviewer.

The PAE response rate of 94 percent in 1981 must be viewed in conjunction with the 96 percent response rate of the CPS. The overall response rate for the PAE survey in 1981 is then 90 percent.

For more information, contact:

Postsecondary Education Statistics Division
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5652

*Voting and Registration.* In November of election years, the CPS includes supplemental questions on voting and registration within the civilian noninstitutional population. CPS voting estimates exceed counts of the actual number of votes cast. On balance, the CPS overstates voting in Presidential elections by 10 to 20 percent of the total number of persons reported as having voted. Some of the possible reasons for the discrepancies are: (a) understatement of actual number of votes cast; (b) possible reluctance of some CPS respondents to admit to not voting; (c) nonresponse to the CPS survey; (d) CPS undercoverage of certain groups in the population in which nonvoting may be high; (e) use of a single household respondent to report on the voting and registration of all persons in the household. These reasons are discussed in greater detail in *Current Population Reports*, Series P-20, No. 453, "Voting and Registration in the Election of November 1990," pp. 9-11.

Data on voter participation by social and economic characteristics of the population of voting age have been published since 1964 in *Current Population Reports*, Series P-20. The latest report is "Voting and Registration in the Election of November 1990," No. 453.

For additional information about this survey, contact:

Jerry T. Jennings
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

## Bureau of Labor Statistics
## U.S. Department of Labor

### *Educational Attainment of Workers*

These data are collected by the March supplement to the Current Population Survey (CPS) sponsored by the Bureau of Labor Statistics and conducted by the Bureau of the Census. Sampling and nonsampling errors associated with the CPS are discussed under that heading. For further information on employment and unemployment statistics contact:

Division of Labor Force Statistics
Bureau of Labor Statistics
441 G Street NW (Room 2486)
Washington, DC 20212

### *The National Longitudinal Study of Youth*

The National Longitudinal Study of Youth (NLSY) is a nationally representative sample of 12,686 young men and young women who were ages 14–21 in 1979 when they were first interviewed. Three independent probability samples, designed to represent the entire population of youth born in the United States between 1957 and 1964, were drawn for the NLSY: 1) a cross-sectional sample designed to be representative of the noninstitutionalized civilian segment of American young people age 14-21 as of January 1, 1979; 2) a supplemental sample designed to overrepresent civilian Hispanic, black, and economically disadvantaged non-Hispanic, non-black youth; and 3) a military sample designed to represent the population aged 17-21 as of January 1, 1979 and serving in the military as of September 30, 1978.

Response rates within the NLSY sample have remained at or above 90 percent for the first 12 years of interviews. By the end of 1990, 10,436 civilian and military respondents continued to be interviewed for an overall retention rate of 89.9 percent.

Further information is available by contacting:

The Center for Human Resource Research
The Ohio State University
921 Chatham Lane, Suite 200
Columbus, Ohio 43221-2418
(614) 442-7300

## Equal Employment Opportunity Commission

*Higher Education Staff Information Survey (EE0-6)*

The United States Equal Employment Opportunity Commission (EEOC) requires all public and private institutions of higher education with at least 15 full-time employees to file the Higher Education Staff Information (EEO-6) report biennially. Higher education institutions are those accredited at the college level by an agency recognized by the Secretary, U.S. Department of Education.

The EEO-6 collects information on: (1) the number of full-time and part-time employees, by occupation, race/ethnicity and sex; (2) the number of full-time faculty, by academic rank, tenure status, race/ethnicity, and sex; and (3) the salaries of full-time staff, by occupation, race/ethnicity, and sex.

Beginning in 1987, data from the EEO-6 have been combined with data collected by the National Center for Education Statistics (NCES) to create the Fall Staff survey. The Fall Staff survey is discussed under IPEDS and is conducted by NCES.

For additional information on the EEO-6 survey, contact:

Betty Wright
U.S. Equal Employment Opportunity
Commission
1801 L Street, NW
Washington, DC 20507

## Bureau of Justice Statistics
## U.S. Department of Justice

*National Crime Survey, School Crime Supplement*

The National Crime Survey (NCS) conducted by the Bureau of Justice Statistics (BJS) collects data from a nationally representative sample of households. When a household is selected for inclusion in the sample, household members age 12 or older are interviewed every 6 months for 3 years. During each interview, information is obtained about the personal victimizations, if any, experienced by the interviewee in the 6 months preceding the interview. One member, generally over the age of 18, is also designated the household respondent, from whom information is obtained about all crimes committed against the household during the preceding 6 months.

The NCS measures both attempted and completed incidents of the violent crimes of rape, robbery, and aggravated and simple assault; personal thefts with and without contact; and the household crimes of burglary, household larceny, and motor vehicle theft.

The School Crime Supplement to the NCS contains data collected in interviews conducted from January through June of 1989 as a supplement to the NCS data collection program. It focuses on personal crimes of violence and theft that were committed inside a school building or on school property only.

The only eligible respondents for this school crime supplement were those household members who were between the ages of 12 and 19, had attended school at any time during the 6 months preceding the interview and were enrolled in a school which would advance them towards the eventual receipt of a high school diploma.

Further information on the School Crime Supplement to the National Crime Survey may be obtained from:

Bruce Taylor
Bureau of Justice Statistics
633 Indiana Avenue NW
Washington, DC 20531

## National Institute on Drug Abuse
## U.S. Department of Health and Human Services

*Monitoring the future*

The National Institute on Drug Abuse is the primary supporter of the long-term study entitled *Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth* conducted by the University of Michigan, Institute for Social Research. One component of the study deals with student drug abuse, another investigates student victimization at school. Results of a national sample survey have been published annually since 1975. Approximately 125 to 135 schools have participated each year. With the exception of 1975 when about 9,400 students participated in the survey, more than 15,000 students have participated annually. For the class of 1990, about 15,200 students responded to the survey. Over the years, the response rate has varied from 77 to 84 percent.

The data in this survey represent only high school seniors. Understandably, there will be some reluctance to admit illegal activities. Also, students who were out of school on the day of the survey were nonrespondents. The survey did not include high school dropouts. The inclusion of these two groups would tend to increase the proportion of individuals who had used drugs. A 1983 study found that the inclusion of the absentees could increase some of the drug usage estimates by as much as 2.7 percent. (Details on that study and its methodology were published in *Drug Use Among American High School Students, College Students, and Other Young Adults*, by Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, available from the National Clearinghouse on Drug Abuse Information, 5600 Fishers Lane, Rockville, MD 20857.)

Further information on this survey may be obtained from:

National Institute on Drug Abuse
Division of Epidemiology and
Statistical Analysis
5600 Fishers Lane
Rockville, MD 20857

**National Center for Health Statistics**
**U.S. Department of Health and Human Services**
*National Health Interview Survey*

The National Health Interview Survey is a continuous cross-sectional household interview survey. Each week a probability sample of the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census. Estimates for certain health characteristics, such as limited activity and respondent-assessed status, are compiled yearly. Information on special health topics, such as health care coverage and health promotion and disease prevention, is periodically collected for all or a sample of household members.

All information collected in the survey results from reports by responsible family members or unrelated individuals residing in the household. When possible, all adult members participate in the interview. However, proxy responses are accepted for family members who are not at home, and are required for all children (those under 18 years of age) and for all household members who are physically or mentally incapable of responding for themselves.

In 1982, the NHIS questionnaire and data preparation procedures of the survey were extensively revised. The basic concepts of NHIS changed in some cases, and in other cases the concepts were measured in a different way. Comparisons with earlier results should not be undertaken without carefully examining these changes.

In 1985, although several new sample design features were adopted for NHIS, conceptually, the sampling plan remained the same. The major changes included (a) reducing the number of primary sampling locations from 376 to 198 for sampling efficiency, (b) oversampling the black population to improve the precision of the statistics, (c) subdividing the NHIS sample into four separate representative panels to facilitate linkage to other National Center for Health Statistics (NCHS) surveys, and (d) using an all-area frame not based on the decennial census to facilitate NCHS survey linkage and to conduct NHIS followback surveys.

The National Center for Health Statistics provides estimates and technical notes on methods for this survey in Series 10 publications, *Data from the National Health Interview Survey.*

For additional information about this survey, contact:

National Center for Health Statistics
Division of Health Interview Statistics
6525 Belcrest Road
Hyattsville, MD 20782
(301) 436-7089

**National Science Foundation**

*Survey of Earned Doctorates*

The Survey of Earned Doctorates (SED) has been conducted annually, under contract, by the National Research Council for the U.S. Department of Education, the National Endowment for the Humanities, the National Science Foundation, and other federal agencies since 1957. Information from the survey becomes part of the Doctorate Records File, which includes records for doctorates awarded since 1920 by regionally accredited universities and colleges. The universe consists of all recipients of doctoral degrees such as Ph.D. or D.Sc., but excludes the recipients of first-professional degrees such as the J.D. or M.D. Approximately 95 percent of the annual cohort of doctorate recipients have responded to the questionnaire which is distributed through the cooperation of the Graduate Deans. Partial data from public sources are added to the file for nonrespondents. The data for a given year include all doctorates awarded in the 12-month period ending on June 30th of that year.

Data for the SED are collected directly from individual doctorate recipients. In addition to the field and specialty of the degree, the recipient is asked to provide educational history, selected demographic data, and information on postgraduate work and study plans. The National Center for Education Statistics' "Survey of Earned Degrees," part of its Integrated Postsecondary Education Data System (IPEDS), collected data from institutions, not individuals. Therefore, the number of doctorates reported in SED differs slightly from HEGIS totals. Also, SED data are restricted to research doctorates. The differences between the two data series have been generally consistent since 1960. The ratio of NCES to SED totals for all Ph.D.s has ranged from 1.01 to 1.06.

Further information on this survey can be obtained from Summary Report: *Doctorate Recipients from United States Universities*, various years, published by the National Research Council, or by contacting:

Office of Scientific and Engineering Personnel
National Research Council
2101 Constitution Avenue NW
Washington, DC 20418

*Survey of Doctorate Recipients*

The Survey of Doctorate Recipients (SDR) is a biennial survey of individuals who have received doctorates in the humanities, sciences, and engineering over the past four decades. It has surveyed scientists (including social scientists and psychologists) and engineers since 1973 and humanists since 1977. It is conducted by the National Research Council with support from the National Science Foundation, the National Endowment for the Humanities, the National Institutes of Health, the Department of Agriculture, and the Department of Energy.

The population for the survey consists of individuals who have received doctorates during a 42-year period. To maintain the length of this timespan for each biennial survey, the two most recent graduating cohorts of Ph.D.s are added to the population, and the two oldest are eliminated. It is a longitudinal survey—that is, individual members of the survey panel are resurveyed every 2 years—and contains historical data on employment status, employment sector, primary work activity, academic rank, tenure status, salary, and other characteristics.

For a more detailed discussion of the history of the SDR, the sample, and other methodological issues, see: National Research Council, *Methodological Report of the 1987 Survey of Doctorate Recipients*, National Research Council, April 1989 (prepared by Mary Belisle).

For further information, contact:

Survey of Doctorate Recipients Project
Office of Scientific and Engineering Personnel
National Research Council
2101 Constitution Avenue NW (Room GR 412)
Washington, DC 20418

*Scientific and Engineering Expenditures at Universities and Colleges Survey*

The National Science Foundation's *scientific and engineering expenditures at universities and colleges survey* originated in 1954 and has been conducted annually since 1972. The population surveyed in most years has consisted of the 500 to 600 universities and colleges that grant a graduate science or engineering degree and/or annually perform at least $50,000 in separately budgeted research and development (R&D) that is defined as current fund expenditures designed to produce specific research outcomes and is funded either by an external agency to an institution or is separately budgeted by an internal institution unit. The institutions included in this survey population expend over 95 percent of the nation's academic R&D funds. In addition, approximately 17 university-administered, federally funded research and development centers (FFRDCs) that are engaged in basic or applied research, development, or management of R&D activities are surveyed.

Since 1984 this survey has been conducted as a sample survey consisting of two strata: a certainty stratum including all doctorate-granting institutions, all historically black colleges and universities with R&D, and all university-administered FFRDCs; and a probability stratum including a random sample of all nondoctorate-granting institutions that perform significant levels of research and development.

Further information on this survey may be obtained from *Guide to the National Science Foundation's Surveys of Academic Science and Engineering*, December 1990, published by the National Science Foundation, or by contacting:

Science and Engineering Activities Program
Division of Science Resources Studies
National Science Foundation, Room L-611
1800 G Street NW
Washington, DC 20550

## 2. Other Organization Sources

**American College Testing Program**

The American College Testing (ACT) Assessment is designed to measure educational development in the areas of English, mathematics, social studies, and natural sciences. The ACT Assessment is taken by college-bound high school students and the test results are used to predict how well students might perform in college.

Prior to the 1984–85 school year, national norms were based on a 10 percent sample of the students taking the test. Since then, national norms have been based on the test scores of all students taking the test. Moreover, beginning with 1984–85 these norms have been based on the most recent ACT scores available from students scheduled to graduate in the spring of the year. Duplicate test records are no longer used to produce national figures.

ACT standard scores are reported for each subject area on a scale from 1 to 36. The four ACT standard scores have a mean (average) of about 19 and a standard deviation of about 6 for college-bound students nationally. A composite score is obtained by taking the simple average of the four standard scores and is an indication of student's overall academic development across these subject areas.

It should be noted that college-bound students who take the ACT Assessment are not representative in some respects of college-bound students nationally. First, students who live in the Midwest, Rocky Mountains and Plains, and the South are overrepresented among ACT-tested students compared with college-bound students nationally. Second, ACT-tested students tend to enroll in public colleges and universities more frequently than do college-bound students nationally.

The 1990 ACT assessment is significantly different from previous years. Consequently, it is not possible to make direct comparisons between scores earned in 1990 and those scores earned in previous years. To permit continuity in tracking of score trends, ACT has established links between scores earned on ACT tests administered before October 1989 and scores on the new ACT.

For further information, contact:

The American College Testing Program
2201 North Dodge Street
P.O. Box 168
Iowa City, IA 52243

### American Federation of Teachers

The American Federation of Teachers (AFT) reports national and state average salaries and earnings of teachers, other school employees, government workers, and professional employees over the past 25 years. The AFT's survey of state departments of education obtains information on minimum salaries, experienced teachers reentering the classroom, and teacher age and experience. Most data from the survey are reported as received, although some data are confirmed by telephone. These data are available in the AFT's annual report *Salary and Analysis of Salary Trends*. While serving as the primary vehicle for reporting the results of the AFT's annual survey of state departments of education, several other data sources are also used in this report.

Further information on this survey can be obtained from:

American Federation of Teachers
555 New Jersey Avenue NW
Washington, DC 20001

### College Entrance Examination Board

The Admissions Testing Program of the College Board comprises a number of college admissions tests, including the Preliminary Scholastic Aptitude Test (PSAT) and the Scholastic Aptitude Test (SAT). High school students participate in the testing program as sophomores, juniors, or seniors—some more than once during these 3 years. If they have taken the tests more than once, only the most recent scores are tabulated. The PSAT and SAT report subscores in the areas of mathematics and verbal ability.

The SAT results are not representative of high school students or college-bound students nationally since the sample is self-selected. Generally, tests are taken by students who need the results to attend a particular college or university. The state totals are greatly affected by the requirements of its state colleges. Public colleges in a number of states require ACT scores rather than SAT scores. Thus the proportion of students taking the SAT in these states is very low and is inappropriate for any comparison. In recent years about 1 million high school students have taken the examination annually.

Further information on the SAT can be obtained from:

College Entrance Examination Board
Educational Testing Service
Princeton, NJ 08541

### Gallup Poll

Each year the Gallup Poll conducts the "Public Attitudes Toward the Public Schools" survey, funded by Phi Delta Kappa. The survey includes interviews with approximately 1,600 adults representing the civilian noninstitutional population 18 years old and over.

The sample used in the 22nd annual survey was made up of a total of 1,594 respondents and is described as a modified probability sample of the nation. Personal, in-home interviewing was conducted in representative areas of the nation and types of communities. Approximately 67 percent of the respondents had no children in school, 30 percent were parents of children in public schools, and 6 percent had children attending nonpublic schools. This total is greater than 100 percent because some parents had children attending both public and nonpublic schools.

The survey is a sample survey and is subject to sampling error. The size of error depends largely on the number of respondents providing data. For example, an estimated percentage of about 10 percent based on the responses of 1,000 sample members has an approximate sampling error of 2 percent at the 95 percent confidence level. The sampling error for the difference in two percentages (50 percent versus 41 percent) based on two samples of 750 members and 400 members, respectively, is about 8 percent.

Further information on this survey can be obtained from:

Gallup Poll
Phi Delta Kappa
P.O. Box 789
Bloomington, IN 47402-0789

### Graduate Record Examination Council

All students who have taken the Graduate Record Examinations (GRE) General Test were asked a series of background information questions. These responses and the test scores themselves form the basis for continuing GRE Program research. In addition, these data are compiled and included in an annual report. The 12th in the series is *A Summary of Data Collected From Graduate Record Examinations Test Takers During 1986–1987.*

The GRE cautions users of these data that "information in these reports is based solely on examinees who took the Graduate Record Examination (GRE) General Test and should not be interpreted as being representative of any other group. The report does not present data for all baccalaureate degree recipients, for all graduate school applicants, or for all first-time graduate school enrollees." Nevertheless, the test-taking group is a large subset (albeit a self-selected one) of each of these groups.

Further information on this and previous editions of the report may be obtained by contacting:

Office of the GRE Program Director
Educational Testing Service
Princeton, NJ 08541

### National Education Association

*Estimates of School Statistics*

The National Education Association (NEA) reports revenues and expenditure data in its annual publication, *Estimates of School Statistics.* Each year NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

Some tables in *The Condition of Education* used revised estimates of financial data prepared by NEA because it was the most current source. Since expenditure data reported to NCES must be certified for use in the U.S. Department of Education formula grant programs (such as Chapter I of the Education Consolidation and Improvement Act), NCES data are not available as soon as NEA estimates.

Further information can be obtained from:

National Education Association—Research
1201 16th Street NW
Washington, DC 20036

### United Nations Educational, Scientific, and Cultural Organization

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) conducts annual surveys of education statistics of its member countries. Besides official surveys, data are supplemented by information obtained by UNESCO through other publications and sources. Each year more than 200 countries reply to the UNESCO surveys. In some cases, estimates are made by UNESCO for particular items such as world and continent totals. While great efforts are made to make them as comparable as possible, the data still reflect the vast differences among the countries of the world in the structure of education. While there is some agreement about the reporting of first- and second-level data, the third level (postsecondary education) presents numerous substantial problems. Some countries report only university enrollment while other countries report all postsecondary, including vocational and technical schools and correspondence programs. A very high proportion of some countries' third-level students attend institutions in other countries. While definition problems are many in this sort of study, other survey problems should not be overlooked. The member countries that provide data to UNESCO are responsible for their validity. Thus, data for particular countries are subject to nonsampling error and perhaps sampling error as well. Some countries may furnish only rough estimates while data from other countries may be very accurate. Other difficulties are caused by the varying periodicity of data collection among the countries of the world. In spite of such problems, many researchers use UNESCO data because they are the best available. Users should examine footnotes carefully to recognize some of the data limitations.

More complete information may be obtained from the Statistical Yearbook published by UNESCO or from:

Office of Statistics
UNESCO
Place de Fontenoy
75700 Paris, France

## The International Association for the Evaluation of Educational Achievement

### IEA Reading Literacy Study

In the period 1989 to 1992, the International Association for the Evaluation of Educational Achievement (IEA) conducted a Study of Reading Literacy in 32 systems of education. The study focused on two levels in each of these systems, the grade level where most 9-year-olds were to be found and the grade level where most 14-year-olds were to be found.

To obtain comparable samples of students, multi-stage sampling was used in each country and schools or classes were typically drawn with a probability proportional to the size of the school or class.

Three major domains or types of reading literacy materials assessed at both age levels were as follows;

1. *Narrative prose*: Continuous texts in which the writers' aim is to tell a story—whether fact or fiction. They normally follow a linear time sequence and are usually intended to entertain or involve the reader emotionally. The selected extracts ranged from short fables to lengthy stories of more than 1,000 words.

2. *Expository prose*: Continuous texts designed to describe, explain, or otherwise convey factual information or opinion to the reader. The tests contained, for example, brief family letters and descriptions of animals as well as lengthy treatises on smoking and lasers.

3. *Documents*: Structured information presented in the form of charts, tables, maps, graphs, lists, or sets of instructions. These materials were organized in such a way that students had to search, locate, and process selected facts rather than read every word of continuous text. In some cases, students were required to follow detailed

instructions in responding to such documents.

To obtain raw scores, all correct answers were totaled for each student in each domain. The Rausch procedure was used to produce scales for each domain. Each scale was given a mean of 500 and a standard deviation of 100.

Further information is available in the IEA report *How in the World Do Students Read?* by Warwick B. Elley.

**Organization for Economic Cooperation and Development**

The Organization for Economic Cooperation (OECD) and Development publishes analyses of national policies in education, training, and economics in 23 countries. The countries surveyed are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Luxembourg, Netherlands New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States, and Yugoslavia.

Since only developed nations, mostly European, are included in OECD studies, the range of analysis is limited. However, OECD data allow for some detailed international comparisons of financial resources or other education variables to be made for this selected group of countries.

Further information can be obtained from:
OECD
2, rue Andre-Pascal
75775 PARIS CEDEX 16, France

# *Glossary*

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**Academic support:** (See Expenditures.)

**Adult education:** College, vocational, or occupational programs, continuing education or noncredit courses, correspondence courses and tutoring, as well as courses and other educational activities provided by employers, community groups, and other providers.

**Advantaged Urban:** Students in this group live in metropolitan statistical areas and attend schools where a high proportion of the students' parents are in professional or managerial positions. Schools were placed into this category on the basis of information about the type of community, the size of its population, and an occupational profile of residents provided by school principals participating in NAEP.

**Appropriations (federal funds):** Budget authority provided through the congressional appropriation process that permits federal agencies to incur obligations and to make payments.

**Appropriation (institutional revenues):** An amount (other than a grant or contract) received from or made available to an institution through an act of a legislative body.

**Associate degree**: A degree granted for the successful completion of a sub-baccalaureate program of studies, usually requiring at least 2 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work/study program.

**Auxiliary enterprises:** (See Revenues.)

**Average daily attendance (ADA):** The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

**Average daily membership (ADM)**: The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

**Baccalaureate degree:** (See Bachelor's degree.)

**Bachelor's degree**: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work/study program.

**Carnegie unit**: A standard of measurement used for secondary education that represents the completion of a course that meets one period per day for one year.

**Catholic school**: (See Orientation.)

**Cohort**: A group of individuals who have a statistical factor in common, for example, year of birth.

**College**: A postsecondary school which offers general or liberal arts education, usually leading to an associate's, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included under this terminology.

**Combined elementary and secondary school**: A school that encompasses instruction at both the elementary and the secondary levels. Examples of combined elementary and secondary school grade spans would be grades 1 through 12 or 5 through 12.

**Computer and information science:** A group of instructional programs that describes computer and information sciences, including computer programming, data processing, and information systems.

**Constant dollars:** Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

**Consumer price index (CPI):** This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

**Control of institutions:** A classification of institutions of elementary/secondary or higher education by whether the institution is operated by publicly elected or appointed officials (public control) or by privately elected or appointed officials and derives its major source of funds from private sources (private control).

**Cost of college attendance:** Cost of living for students attending postsecondary institutions, including: tuition and fees, books, room and board, childcare, transportation, and other miscellaneous expenses.

**Current dollars:** Dollar amounts that have not been adjusted to compensate for inflation.

**Current expenditures per pupil in enrollment:** (See Expenditures.)

**Current-fund expenditures:** (See Expenditures.)

**Current-fund revenues:** (See Revenues.)

**Dependent student**: A student who under federal criteria is considered to be financially dependent on her or his parents or guardians. Most students are considered dependent until they are 24 years old.

**Disadvantaged Urban:** Students in this group live in metropolitan statistical areas and attend schools where a high proportion of the students' parents are on welfare or are not regularly employed. Schools were placed into this category on the basis of information about the type of community, the size of its population, and an occupational profile of residents provided by school principals participating in NAEP.

**Dropout**: The term is used both to describe an event—leaving school before graduating—and a status—an individual who is not in school and is not a graduate. Transferring schools, for example, from a public to a private school, is not regarded as a dropout event. A person who drops out of school may later return and graduate. At the time the person left school initially, he/she is called a *dropout*. At the time the person returns to school, he/she is called a *stopout*. Measures to describe these often complicated behaviors include the event dropout rate (or the closely related school persistence rate), the status dropout rate, and the high school completion rate.

**Doctor's degree**: An earned degree carrying the title of Doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.) musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading. (See First-professional degree.)

**Educational and general expenditures:** (See Expenditures.)

**Educational attainment**: The highest grade of regular school attended and completed.

**Elementary school**: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

**Elementary/secondary school**: As reported in this publication, includes only regular school (i.e., schools that are part of state and local school systems, and also most not-for-profit private elementary/secondary schools, both religiously affiliated and nonsectarian). Schools not reported include subcollegiate departments of institutions of higher education, residential schools for exceptional children, federal schools for Indians, and federal schools on military posts and other federal installations.

**Employed:** Includes civilian, noninstitutionalized persons who (1) worked during any part of the survey week as paid employees; worked in their own business, profession, or farm; or worked 15 hours or more as unpaid workers in a family-owned enterprise; or (2) were not working but had jobs or businesses from which they were temporarily absent due to illness, bad weather, vacation, labor-management dispute, or personal reasons whether or not they were seeking another job.

**Engineering and engineering technologies:** Instructional programs that describe the mathematical and natural sciences gained by study, experience, and practice and applied with judgment to develop ways to utilize the materials and forces of nature economically for the benefit of mankind. Includes programs that prepare individuals to support and assist engineers and similar professionals.

**English**: A group of instructional programs that describes the English language arts, including composition, creative writing, and the study of literature.

**Enrollment**: The total number of students registered in a given school unit at a given time, generally in the fall of a year.

**Expected family contribution (EFC):** The amount that a family is expected to pay toward meeting postsecondary costs of attendance (students and parents of dependent students are both expected to make contributions). This amount is determined through an analysis of need (for example, the Congressional Methodology) and is based on taxable and nontaxable income and assets as well as family size, the number of family members attending postsecondary institutions, extraordinary medical expenses, and so forth. For dependent students, the EFC consists of both a parental contribution and a separately calculated student contribution. The minimum student contribution in 1988–89 was $700 for freshmen and $900 for other undergraduates.

**Expenditures:** Charges incurred, whether paid or unpaid, which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, extension of credit, or as agency transaction. Also, government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

**Academic support**: This category of college expenditures includes expenditures for support services that are an integral part of the institution's primary missions of instruction, research, or public service. Includes expenditures for libraries, galleries, audio/visual services, academic computing support, ancillary support, academic administration, personnel development, and course and curriculum development.

**Current expenditures (elementary/secondary):** The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs. Beginning in 1980-81, expenditures for state administration are excluded.

**Current expenditures per pupil in enrollment:** (See Expenditures.) Current expenditures for the regular school term divided by the total number of students registered in a given school unit at a given time, generally in the fall of a year.

**Current-fund expenditures (higher education):** Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

**Educational and general expenditures:** The sum of current-fund expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

**Instruction**: That category including expenditures of the colleges, schools, departments, and other instructional divisions of higher education institutions, and expenditures for departmental research and public service which are not separately budgeted. Includes expenditures for both credit and noncredit activities. Excludes expenditures for academic administration where the primary function is administration (e.g., academic deans).

**Scholarships and fellowships**: This category of college expenditures applies only to money given in the form of outright grants and trainee stipends to individuals enrolled in formal coursework, either for credit or not. Aid to students in the form of tuition or fee remissions is included. College work-study funds are excluded and are reported under the program in which the student is working. In the tabulations in this volume, Pell Grants are not included in this expenditure category.

**Expenditures per pupil:** Charges incurred for a particular period of time divided by a student unit of measure, such as enrollment, average daily attendance or average daily membership.

**Federal aid**: Student financial aid whose source is the federal government. This aid can either be provided by or administered by a federal agency. Federal agencies providing aid include the Department of Education, Department of Health and Human Services, Department of Defense, Veterans Administration, and the National Science Foundation. Federal aid can be in the form of grants, loans, and work-study aid.

**Federal funds:** Amounts collected and used by the federal government for the general purposes of the government. There are four types of federal fund accounts: the general fund, special funds, public enterprise funds, and intragovernmental funds. The major federal fund is the general fund, which is derived from general taxes and borrowing. Federal funds also include certain earmarked collections, such as those generated by and used to finance a continuing cycle of business-type operations.

**First-professional degree**: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree usually is based on a program requiring at least 2 academic years of work prior to entrance and a total of at least 6 academic years of work to complete the degree program, including both prior-required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (J.D.), and theological professions (M.Div. or M.H.L.).

**Fiscal year**: The yearly accounting period for the federal government, which begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 1992 begins on October 1, 1991, and ends on September 30, 1992. (From fiscal year 1844 to fiscal year 1976 the fiscal year began on July 1 and ended on the following June 30.)

**Foreign languages**: A group of instructional programs that describes the structure and use of language that is common or indigenous to people of the same community or nation, the same geographical area, or the same cultural traditions. Programs cover such features as sound, literature, syntax, phonology, semantics, sentences, prose, and verse, as well as the development of skills and attitudes used in communicating and evaluating thoughts and feelings through oral and written language.

**Full-time enrollment**: The number of students enrolled in higher education courses with total credit load equal to at least 75 percent of the normal full-time course load.

**Full-time-equivalent (FTE) enrollment:** For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

**Full-time instructional faculty:** Those members of the instruction/research staff who are employed full-time as defined by the institution, including faculty with released time for research and faculty on sabbatical leave. Full-time counts exclude faculty who are employed to teach less than two semesters, three quarters, two trimesters, or two 4-month sessions; replacements for faculty on sabbatical leave or those on leave without pay; faculty for preclinical and clinical medicine; faculty who are donating their services; faculty who are members of military organizations and paid on a different pay scale from civilian employees; academic officers, whose primary duties are administrative; and graduate students who assist in the instruction of courses.

**GED recipient:** A person who has obtained certification of high school equivalency by meeting state requirements and passing an approved exam, which is intended to provide an appraisal of the person's achievement or performance in the broad subject matter areas usually required for high school graduation. (See General educational development test.)

**General educational development (GED) test**: A test administered by the American Council on Education as the basis for awarding a high school equivalent certification.

**Geographic region**: The four regions used by the Bureau of Economic Analysis of the U.S. Department of Commerce, the National Assessment of Educational Progress, and the National Education Association are as follows (Note that the National Education Association designated the Central region as Middle region in its classification):

*Northeast*

Connecticut
Delaware
District of Columbia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

*Southeast*

Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Virginia
West Virginia

*Central (Middle)*

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

*West*

Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oklahoma
Oregon
Texas
Utah
Washington
Wyoming

**Government appropriation**: An amount (other than a grant or contract) received from or made available to an institution through an act of a legislative body.

**Government grant or contract**: Revenues from a government agency for a specific research project or other program.

**Graduate:** An individual who has received formal recognition for the successful completion of a prescribed program of studies.

**Graduate record examination (GRE)**: Multiple-choice examinations administered by the Educational Testing Service and taken by applicants who are intending to attend certain graduate schools. Two generalized tests are offered, plus specialized tests in a variety of subjects areas. Ordinarily, a student will take only the specialized test that applies to the intended field of study.

**Grant**: Also known as scholarships, these are funds for postsecondary education that do not have to be repaid.

**Gross domestic product (GDP)**: Gross national product less net property income from abroad. Both gross national product and gross domestic product aggregate only the incomes of residents of a nation, corporate and individual, deriving directly from the current production of goods and services. However, gross national product also includes net property from abroad. (See also Gross national product.)

**Gross national product (GNP)**: A measure of the money value of the goods and services available to the nation from economic activity. GNP can be viewed in terms of expenditure categories which include purchases of goods and services by consumers and government, gross private domestic investment, and net exports of goods and services. The goods and services included are largely those bought for final use (excluding illegal transactions) in the market economy. A number of inclusions, however, represent imputed values, the most important of which is rental value of owner-occupied housing. GNP, in this broad context, measures the output attributable to the factors of production—labor and property—supplied by U.S. residents.

**High school**: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

**High school program**: A program of studies designed to prepare students for their postsecondary education and occupation. Four types of programs are usually distinguished—academic, vocational, general, and personal use. An academic program is designed to prepare students for continued study at a college or university. A vocational program is designed to prepare students for employment in one or more semiskilled, skilled, or technical occupations. A general program is designed to provide students with the understanding and competence to function effectively in a free society and usually represents a mixture of academic and vocational components. A personal use program provides a student with general skills in areas such as health, religion, and military science.

**Higher education**: Study beyond secondary school at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

**Higher education institutions (general definition)**: Institutions providing education above the instructional level of the secondary schools, usually beginning with grade 13. Typically, these institutions include colleges, universities, graduate schools, professional schools, and other degree-granting institutions.

**Higher Education Price Index:** A price index which measures average changes in the prices of goods and services purchased by colleges and universities through current-fund education and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

**Humanities:** Instructional programs in the following fields: area and ethnic studies, foreign languages, letters, liberal/general studies, multi/interdisciplinary studies, philosophy and religion, theology, and the visual and performing arts.

**Independent operations:** A group of self-supporting activities under control of a college or university. For purposes of financial surveys conducted by the National Center for Education Statistics, this category is composed principally of federally funded research and development centers (FFRDC).

**Inflation**: An upward movement in general price levels that results in a decline of purchasing power.

**Institutional support**: The category of higher education expenditures that includes day-to-day operational support for colleges, excluding expenditures for physical plant operations. Examples of institutional support include general administrative services, executive direction and planning, legal and fiscal operations, and community relations.

**Instruction**: (See Expenditures.)

**Instructional staff**: Full-time-equivalent number of positions, not the number of different individuals occupying the positions during the school year. In local schools, includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or in the improvement of the teaching-learning situation. Includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. Excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

**Labor force**: Persons employed as civilians, unemployed, or in the armed services during the survey week. The "civilian labor force" comprises all civilians classified as employed or unemployed. (See Employed and Unemployed.)

**Life sciences:** Life sciences are instructional programs that describe the systematic study of living organisms. Life sciences include biology, biochemistry, biophysics, and zoology.

**Limited-English proficient:** A concept developed to assist in identifying those language-minority students (children from language backgrounds other than English) who need language assistance services, in their own language or in English, in the schools. The Bilingual Education Act, reauthorized in 1988 (P.L. 100-297), describes a limited English proficient (LEP) student as one who:

1) meets one or more of the following conditions:
    a) a student who was born outside of the United States or whose native language is not English;
    b) a student who comes from an environment where a language other than English is dominant; or
    c) a student who is American Indian or Alaskan Native and comes from an environment where a language other than English has had a significant impact on his/her level of English language proficiency; and
2) has sufficient difficulty speaking, reading, writing, or understanding the English language to deny him or her the opportunity to learn successfully in English-only classrooms.

In practice, many ways of making this determination about a individual student are being used by school systems across the United States. These include various combinations of home language surveys, informal teacher determination, formal interviews, and a number of types of assessment tests for classification, placement, and monitoring of progress.

**Loan**: Borrowed money that must be repaid.

**Local education agency (LEA)**: (See School district.)

**Master's degree**: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree including the Master of Arts degree, or M.A., and the Master of Science degree, or M.S., is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, and an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

**Mathematics**: A group of instructional programs that describes the science of logical symbolic language and its application.

**Metropolitan population**: The population residing in metropolitan statistical areas (MSAs). (See Metropolitan Statistical Area.)

**Metropolitan Statistical Area (MSA)**: A large population nucleus and the nearby communities which have a high degree of economic and social integration with that nucleus. Each MSA consists of one or more entire counties (or county equivalents) that meet specified standards pertaining to population, commuting ties, and metropolitan character. In New England, towns and cities, rather than counties, are the basic units. MSAs are designated by the Office of Management and Budget. An MSA includes a city and, generally, its entire urban area and the remainder of the county or counties in which the urban area is located. A MSA also includes such additional outlying counties which meet specified criteria relating to metropolitan character and level of commuting of workers into the central city or counties. Specified criteria governing the definition of MSAs recognized before 1980 are published in **Standard Metropolitan Statistical Areas: 1975**, issued by the Office of Management and Budget. New MSAs were designated when 1980 counts showed that they met one or both of the following criteria:

> Included a city with a population of at least 50,000 within their corporate limits; or
>
> Included a Census Bureau-defined urbanized area (which must have a population of at least 50,000) and a total MSA population of at least 100,000 (or, in New England, 75,000).

**Modal grade**: The modal grade is the year of school in which the largest proportion of students of a given age is enrolled. Enrolled persons are classified according to their relative progress in school, that is, whether the grade or year in which they were enrolled was below, at, or above the modal (or typical) grade for persons of their age at the time of the survey.

**Natural sciences:** A group of fields of study which includes the life sciences, physical sciences, and mathematics.

**Nonmetropolitan residence group**: The population residing outside metropolitan statistical areas. (See Metropolitan Statistical Area.)

**Nonsupervisory instructional staff**: Persons such as curriculum specialists, counselors, librarians, remedial specialists, and others possessing education certification but not responsible for day-to-day teaching of the same group of pupils.

**Nursery school:** (See Preprimary.)

**Obligations** Amounts of orders placed, contracts awarded, services received, or similar legally binding commitments made by federal agencies during a given period that will require outlays during the same or some future period.

**Orientation (private school)**: The group or groups, if any, with which a private elementary/secondary school is affiliated, or from which it derives subsidy or support:

> **Catholic school**: A private school over which a Roman Catholic church group exercises some control or provides some form of subsidy. Catholic schools for the most part include those operated or supported by: a parish, a group of parishes, a diocese, or a Catholic religious order.
>
> **Other religious school**: A private school affiliated with an organized religion or denomination other than Roman Catholicism or which has a religious orientation other than Catholic in its operation and curriculum.
>
> **Nonsectarian school**: A private school whose curriculum and operation are independent of religious orientation and influence in all but incidental ways.

**Other technical/professional fields:** A group of occupationally-oriented fields, other than business, computer science, education, and engineering, which include agriculture and agricultural sciences, architecture, communications, health sciences, home economics, law, library and archival sciences, military sciences, parks and recreation, protective services, and public affairs.

**Outlays:** The value of checks issued, interest accrued on the public debt, or other payments made, net of refunds and reimbursements.

**Part-time enrollment:** The number of students enrolled in higher education courses with a total credit load less than 75 percent of the normal full-time credit load.

**Personal income**: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits, and military pensions, but excludes transfers among persons.

**Physical sciences:** Physical sciences are instructional programs that describe inanimate objects, processes, or matter, energy, and associated phenomena. Physical sciences include astronomy, astrophysics, atmospheric sciences, chemistry, geology, physics. planetary science, and science technologies.

**Postsecondary education:** The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose, and excludes avocational and adult basic education programs.

**Preprimary:** Elementary education programs for children who are too young for first-grade. The year before first-grade is called kindergarten; the year(s) before kindergarten are called preschool, nursery school, or prekindergarten. Not included in prekindergarten is essentially custodial care provided in private homes. Prekindergarten programs may be provided in regular elementary schools (with kindergarten, first- and higher grade programs) or in preschools (with only prekindergarten programs.)

**Prekindergarten:** (See Preprimary.)

**Private school or institution**: A school or institution which is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

**Proprietary institution**: An educational institution that is under private control but whose profits derive from revenues subject to taxation.

**Racial/ethnic group**: Classification indicating general racial or ethnic heritage based on self-identification, as in data collected by the Bureau of the Census, or on observer identification, as in data collected by the Office for Civil Rights. These categories are in accordance with the Office of Management and Budget standard classification scheme presented below:

**American Indian or Alaskan Native**: A person having origins in any of the original peoples of North America and maintaining cultural identification through tribal affiliation or community recognition.

**Asian or Pacific Islander**: A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

**Black**: A person having origins in any of the black racial groups in Africa. Normally excludes persons of Hispanic origin except for tabulations produced by the Bureau of the Census, which are noted accordingly.

**Hispanic**: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

**White:** A person having origins in any of the original peoples of Europe, North Africa, or the Middle East. Normally excludes persons of Hispanic origin except for tabulations produced by the Bureau of the Census, which are noted accordingly.

**Remedial education:** Instruction for a student lacking those reading, writing, or math skills necessary to perform college-level work at the level required by the attended institution.

**Revenues:** All funds received from external sources, net of refunds, and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

**Auxiliary enterprises:** This category includes those essentially self-supporting operations which exist to furnish a service to students, faculty, or staff, and which charge a fee that is directly related to, although not necessarily equal to, the cost of the service. Examples are residence halls, food services, college stores, and intercollegiate athletics.

**Current-fund revenues (higher education)**: Money received during the current fiscal year from revenue which can be used to pay obligations currently due, and surpluses reappropriated for the current fiscal year.

**Salary**: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

**Scholarships and fellowships**: (See Expenditures.)

**Scholastic Aptitude Test (SAT)**: An examination administered by the Educational Testing Service and used to predict the facility with which an individual will progress in learning college-level academic subjects.

**School climate**: The social system and culture of the school, including the organizational structure of the school and values and expectations within it.

**School district**: An education agency at the local level that exists primarily to operate public schools or to contract for public school services. Synonyms are "local basic administrative unit" and "local education agency."

**School year**: The 12-month period of time denoting the beginning and ending dates for school accounting purposes, usually from July 1 through June 30.

**Science**: The body of related courses concerned with knowledge of the physical and biological world and with the processes of discovering and validating this knowledge.

**Secondary school**: A school comprising any span of grades beginning with the next grade following an elementary or middle-school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

**Social and behavioral sciences:** A group of scientific fields of study which includes anthropology, archeology, criminology, demography, economics, geography, history, international relations, psychology, sociology, and urban studies.

**Social studies**: A group of instructional programs that describes the substantive portions of behavior, past and present activities, interactions, and organizations of people associated together for religious, benevolent, cultural, scientific, political, patriotic, or other purposes.

**Socioeconomic status (SES):** For the High School and Beyond study and the National Longitudinal Study of the High School Class of 1972, the SES index is a composite of five equally weighted, standardized components: father's education, mother's education, family income, father's occupation, and household items. The terms high, middle, and low SES refer to the upper, middle two, and lower quartiles of the weighted SES composite index distribution.

**Staff assignments, elementary and secondary school:**

**District administrators**: The chief executive officers of education agencies (such as superintendents and deputies) and all others with district-wide responsibility. Such positions may be business managers, administrative assistants, coordinators and the like.

**District administrative support staff**: Those personnel that are assigned to the staffs of the district administrators. They may be clerks, computer programmers and others concerned with the functioning of the entire district.

**Guidance counselors**: Professional staff whose activities involve counseling with students and parents, consulting with other staff members on learning problems, evaluating the abilities of students, assisting students in personal and social development, providing referral assistance, and working with other staff members in planning and conducting guidance programs for students.

**Instructional (teacher) aides**: Those staff members assigned to assist a teacher with routine activities associated with teaching (i.e., those activities requiring minor decisions regarding students, such as monitoring, conducting rote exercises, operating equipment, and clerking). Volunteer aides are not included in this category.

**Librarians**: Staff members assigned to perform professional library service activities such as selecting, acquiring, preparing, cataloging, and circulating books and other printed materials; planning the use of the library by students, teachers and other members of the instructional staff; and guiding individuals in their use of library books and materials, which are maintained separately or as part of an instructional materials center.

**Other support services staff**: All staff not reported in other categories. This group includes media personnel, social workers, data processors, health maintenance workers, bus drivers, security cafeteria workers, and other staff.

**School administrators**: Those staff members whose activities are concerned with directing and managing the operation of a particular school. They may be principals or assistant principals, including those who coordinate school instructional activities with those of the local education agency (LEA) and other appropriate units.

**Stopout**: (See Dropout.)

**Tax expenditures:** Losses of tax revenue attributable to provisions of the federal income tax laws that allow a special exclusion, exemption, or deduction from gross income or provide a special credit, preferential rate of tax, or a deferral of tax liability affecting individual or corporate income tax liabilities.

**Technical/professional fields:** A group of occupationally oriented fields of study, other than engineering and computer science, which include agriculture and agricultural sciences, architecture, business and management, communications, education, health sciences, home economics, law, library and archival sciences, military sciences, parks and recreation, protective services, and public affairs.

**Total expenditure per pupil in average daily attendance:** Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980-81, expenditures for state administration are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

**Tuition and fees**: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books, or other goods.

**Type of higher education institutions**:

**4-year institution**: An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a baccalaureate degree. In some tables a further division between universities and other 4-year institutions is made. A "university" is a postsecondary institution which typically comprises one or more graduate professional schools. (See also University.)

**2-year institution**: An institution legally authorized to offer and offering at least a 2-year program of college-level studies which terminates in an associate degree or is principally creditable toward a baccalaureate degree.

**Undergraduate students**: Students registered at an institution of higher education who are working in a program leading to a baccalaureate degree or other formal award below the baccalaureate such as an associate degree.

**Unemployed:** Civilians who had no employment but were available for work and (1) had engaged in any specific jobseeking activity within the past 4 weeks, (2) were waiting to be called back to a job from which they had been laid off, or (3) were waiting to report to a new wage or salary job within 30 days.

**University**: An institution of higher education consisting of a liberal arts college, a diverse graduate program, and usually two or more professional schools or faculties and empowered to confer degrees in various fields of study.

**Urbanicity:** In the Schools and Staffing Survey school location is categorized based on their classification in QED, as drawn from U.S. Census data and definition. The results are summarized in three variables:

*Rural/small town*—outside a MSA (Metropolitan Statistical Area).

*Urban fringe/large town*—area surrounding a central city but within a county constituting an MSA.

*Central city*—central city of an MSA.

**Vocational education**: Organized educational programs, services, and activities which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career, requiring other than a baccalaureate or advanced degree.

**Work-study**: A generic term for programs designed to provide part-time employment as a source of funds to pay for postsecondary education as well as a federal program that is administered through postsecondary institutions.

**Year-round, full-time worker**: One who worked primarily at full-time civilian jobs for 50 weeks or more during the preceding calendar year.

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